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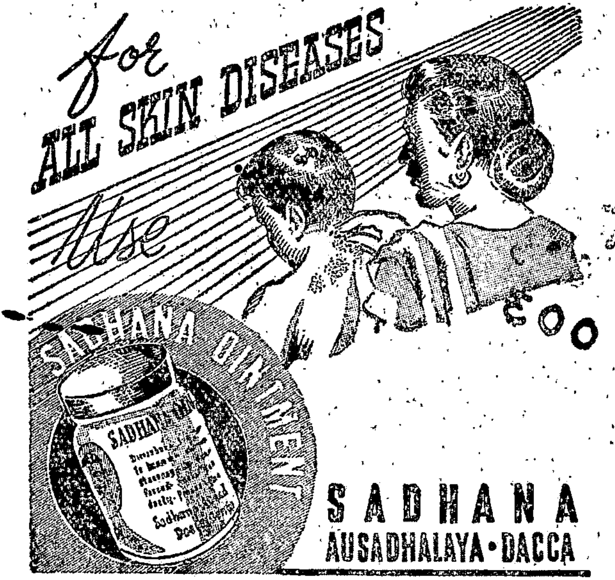

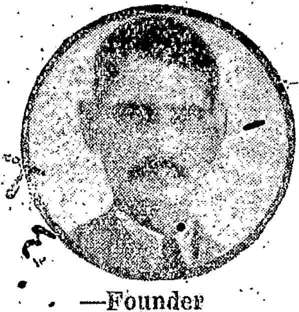

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IS THERE A SCIENCE OF POLITICS?

PROF. RAGHUBIR CHAKRAVARTI

INTRODUCTION

In the last article, we have noted that the association of the term *science* to *politics* is comparatively modern and the institution of the State is now studied under the general title of Political Science[1] In that context, this association was taken for granted. How far this association is valid would be examined in the present chapter, firstly, historically, and then analytically.

To be a science, politics must be an empirical study, based on observation of political facts and experience. It must get at facts and understand them. It must also help us to face such facts by providing a useful guide to sound political conduct. It can effectively do so to the extent it can discover general laws of political behaviour from observed facts. In addition, it has to adopt methods which have been found useful in the natural sciences. Such methods are repetitions of observation and their measurement.

Politics has been made an empirical study and a guide to political conduct for quite a long time. But the conscious adaptation of the methods of the natural sciences is comparatively modern. It was initiated in the nineteenth century and developed on a planned basis in the twentieth century. For this reason, it is only in recent times that Political Science "has really become scientific in spirit and method"[2].

HISTORICAL SURVEY

It was Aristotle who introduced the tradition of systematic observation of political facts. His *Politics* is based on the concrete study of one hundred and fifty-eight 'polities' or constitutions, of which "the constitution of Athens (discovered in 1891) is the only surviving example"[3]. The very opening words of *Politics* clearly indicate his methods. Aristotle introduces his book by saying that "Observation shows us" such facts about every 'polis'[4]. Indeed, as Professor Barker comments: "The essence of his procedure was observation and registration of all the relevant data . . .".[5] And, in majority of cases, he builds up his general theory on the basis of actual evidence. Thus, Aristotle combines "a gift of theory with a mastery and accumulation of detail"[6].

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[1] Chakravarti, R, *New Aspects of Political Science*, in THE CALCUTTA REVIEW, Vol. 145. No. 1, October, 1957, pp. 80-81.

[2] Shephard, W. J., Political Science in *The History and Prospects of The Social Sciences* ed. by Barnes, H. E., New York (1925), p. 401.

[3] Sabine, G. H., *A History of Political Theory*, New York (1941 reprint), p. 89.

[4] Bk. 1. Ch. 1.

Aristotle's reflections on various types of constitutions (Bk. IV), the causes and the cure of revolutions (Bk. V), and the organisation of Democracies and Oligarchies (Bk. VI)[7] are remarkably realistic and free from the influence of his ethics. His discussions of the revolutions or political pathology[8] (Bk. V Chaps. 1-7) in general, and the ways to avoid them in particular (Bk. V. Chap. 8) make his book almost a stateman's manual. More realistic is his Chapter 11 of Book V, where he explains what a tyrant must do to retain power "in an ironically Machiavellian tone"[9]. Involved in such reflections is his theory of preservation of states, which can be a useful guide to correct political conduct. Aristotle makes Politics a practical and observational science, and thereby establishes the general framework of a Science of Politics. He is truly "the father of political science"[10].

However, Aristotle was not wholly a political scientist. He was also a political philosopher. He was imbued with an ethical purpose. That is why he thought it proper to make his discussions of political ideals and the picture of an ideal state (Bks. VII-VIII) an integral part of *Politics*. His *Politics* is, after all, a means of promoting 'collective happiness"[11]. The good of man was for him 'the end of the Science of Politics'[12]. Politics was truly "the ethics of a whole society"[13]. As Professor Barker remarks: "Political Science as the science of a whole moral society pursuing the full good which can only be realised by common action, is for Aristotle the supreme ethics."[14] Although Aristotle indicated the lines of development of a scientific Politics, he could not pursue them to their logical destination due to the domineering presence of ethical ends.

It fell to Machiavelli, the political theorist of the Renaissance, to develop further the tradition set by Aristotle. If Aristotle was domi:

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[5] Barker, E., *The Politics of Aristotle*, Oxford (1946), p. xxviii.

[6] Barker, E., ARISTOTLE in the *Encyclopaedia of the Social Sciences*, Vol. 2, p. 192.

[7] I have used Jowett's edition of Aristotle's *Politics* for these references.

[8] Barker, E., *The Politics of Aristotle*, p. xxxviii.

[9] Russell, B., *History of Western Philosophy*, London (1946), p. 214.

[10] Catlin, G., *A History of the Political Philosophers*, London (1950), p. 102.

[11] Durant, W., *The Story of Civilization*, Vol. 2.
The Life of Greece, New York (1939), p. 534.

[12] Aristotle, *The Nicomachean Ethics*. (The Loeb. Classical Library) p. 7.

[13] Barker, E., *Greek Political Theory : Plato and His Predecessors*, London (1952 reprint), p. 6.

[14] Barker, E., *ibid.*

nated by 'ethical ends' of politics, Machiavelli was dominated by the 'means' of practical politics. Whereas Aristotle was concerned with the good of man, Machiavelli was concerned with the creation of a State. Machiavelli's one thought was how best to accomplish this aim.[15] This singular aim "prompted the momentary dismissal of all other considerations "[16]. He become indifferent to the morality of the means for the same reason. He was 'lost in idolatry of the state '[17]. With him, State replaced humanity as the exclusive concern of Politics. Politics is, thus liberated from the domination of 'older type of philosophy '[18]. God was removed to a distant sphere and the study of Politics was thoroughly secularized[19]. It is exactly at this point that Machiavelli represents a sharp departure from Aristotle. Once Ethics is separated from Politics, the Science of Politics becomes immediately possible. In this context, Machiavelli is the first political scientist.

Machiavelli is clear on two important points. In the first place, his object of writing was to make a "thing which shall be useful to him who apprehends it "[20]. He was, in fact, creating a "a science of politics in the sense of a body of rules upon which governments should act and absolutely rely "[21]. His science would be a technique to produce a change in the real world. In the second place, he made it emphatically clear that in his writing he was following up "the real truth of a matter than the imagination of it "[22]. Machiavelli was neither concerned with the Utopia of Plato nor with the ideal State of Aristotle. He was concerned with the real and the actual State. He observed the State "as clearly and dispassionately as the painters had looked at Nature "[23]. He was a political scientist and not a political philosopher. He made a full use of Aristotle's inductive method in his *The Prince* (1513) and *Discourses on the First Decade of Livy* (1516-19).

The method of Aristotle and Machiavelli was utilised by a sixteenth century French social and political philosopher, Jean Bodin in his *Six Books of the Republic* (1576). The *Republic* summed up and stated all the results of his studies and meditations. It adopted the plan and the method of Aristotle to the needs of the time. It was largely based on observation and revealed a mind "as secular in his point of view as Machiavelli and as scientific in his method "[24]. Bodin excluded social, ethical and religious aspect from his consideration of relationship between the sovereign and the citizens. Sovereignty " is supreme power over citizens and subjects, unrestrained by law "[25].

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[15] *The Encyclopaedia Americana*, Vol. 18, p. 53.

[16] Dyer, L., *Machiavelli and the Modern State*, Boston (1904), p. viii.

[17] Durant, W., *The Story of Civilization*, Vol. 5, The Renaissance, p. 566.

[18] Heller, H., Political Science in the *Encyclopaedia of the Social Sciences*, Vol. 12, p. 208.

[19] Martin, A. V., *Sociology of the Renaissance*, London (1944), p. 21.

[20] Machiavelli, N., *The Prince* (Everyman edition), p. 83.

[21] Butterfield, H., *The Statecraft of Machiavelli*, London (1955 reprint), p. 25.

[22] Machiavelli, N., *ibid.*

[23] Bernal, J. D., *Science in History*, London (1954), p. 719.

Moreover, Bodin was intensely practical. He was not concerned with an ideal State. He was rather fully aware of the evils of his time. " He wrote the Republic ", remarks Professor Allen, " not only to expound the nature of political society and to state the laws that govern it, but also to lay down general rules of policy and to advocate a number of definite and circumstantial reforms in France." Professor Allen points out further that Bodin " insists that statesmen and theorist alike must think first of what is possible. It is useless merely to imagine a State as we should like to see. What is wanted is the understanding of things as they are, not dreams of what they might be."[26] Bodin was modern enough to indicate that a political philosopher could only gain in vision by practical experience in affairs and administration. He even attributed " the insufficiency of Aristotle partly to his lack of such experience"[27]. Here Bodin was anticipating the increasing association between political scientist and administration as seen in the present day. Indeed such association has become an important factor in making 'Politics' a real science.

Bodin was no less realistic in his grasp of the causes and the cure of revolution. He correlated the geographical factor as one of the main causes. He anticipated Montesquieu in suggesting that the environmental factor was itself a determinant in every case.[28] However, much of Bodin's scientific analysis was spoiled by his belief in stars and astrology as part of the environment and faith in the spirits and demons as determinant of the lives of men.[29] He was really a man of contradiction.

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[24] Shephard, W. J., *ibid.*, p. 408.

[25] Bodin, J., Excerpts from the 'Six Books' in *Readings in Political Philosophy*, ed. by Coker, F. W., rev. and enlarged edition, New York (1954—13th reprint), p. 370.

[26] Allen, J. W., *A History of Political Thought in the Sixteenth Century*, London. (1928), pp. 401-02.

Allen J. W., Jean Bodin in *The Social and Political Ideas of Some Great Thinkers of the Sixteenth and Seventeenth Centuries*, ed. by Hearnshaw, F. J. C., London (1926), p. 60.

[27] Allen J. W., *A History of Political Thought in the Sixteenth Century*, p. 402.

[28] MacIver, R. M., Bodin, Jean in the *Encyclopaedia of the Social Sciences*, Vol. 2, p. 615.

[29] Sabine, G, H., *ibid.*, p. 401.

Far more consistent than Bodin was Thomas Hobbes, an English philosopher of the seventeenth century. Hobbes was deeply moved by "the rapid contemporary advances of the mathematical and physical sciences"[30]. And he attempted to apply "scientific principle to the study of man in society"[31]. He anticipated Herbert Spencer in aiming at "exhibiting a complete system in which the results of the physical sciences will be co-ordinated with ethical and political theory"[32].

In *Leviathan* (1651) he built up a theory of the State, "altogether independent of theological principle".[33] He secular spirit was wedded to his frank observations of human nature. He looked at human beings with an open mind. In this respect he was as much a realist as Machiavelli. His conception of the State was largely determined by his scientific study of human behaviour. His *Leviathan* was the best answer to nasty and brutish nature of egocentric individuals. It was also the only remedy against civil war, anywhere and everywhere. Moreover, Hobbes was particular in pointing out that his writing would be a useful guide in political practice. He could not bear the thought that his labour would be "as useless, as Commonwealth of Plato". On the contrary, he hoped that his writing might "fall into the hands of a Sovereign" who would "consider it himself" and "convert this Truth of Speculation, into the Utility of Practice"[34].

If Hobbes was Herbert Spencer of the seventeenth century, Montesquieu was the Bryce of the eighteenth century in that he studied political facts by observation and extensive tour. He was the most leading thinker of his time. His most important work was *The Spirit of the Laws* published in 1748. In this book he explained "existing laws in terms of the whole of human life"[35]. His explanation was aided by diligent collection of a "wealth of empirical data"[36]. He made it clear in his Introduction that "I have not drawn my principles from my prejudices, but from the nature of things"[37]. He had a ' masterly genius for generalization" which helped him to create "the science of politics",[38] based on "an extensive survey of the actual political institutions of his time"[39]. He also gave a new direction to political analysis by comparative study of constitutional practices. He "was, indeed, the first modern political scientist"[40].

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[30] Catlin, G., Hobbes, Thomas in *Encyclopaedia of the Social Sciences*, Vol. 7, p, 394.

[31] Woodward, E. L., Thomas Hobbes in *The Social and Political Ideas of Some Great Thinkers of the Sixteenth and Seventeenth Centuries*, ed. by Hearnshaw, F. J. C. London (1926), p. 154

[32] Stephen, L , *Hobbes*, London (1901), p, 73.

[33] Laski, H., The Rise of Liberalism in *Encyclopaedia of the Social Sciences*, Vol. 1, p. 109.

[34] Hobbes, T., *Leviathan* (Everyman's edition), p. 197.

[35] Brinton, C , The Revolutions in *Encyclopaedia of the Social Sciences*, Vol. 1, p. 123.

[36] Rohden, P. R, Montesquieu in *Encyclopaedia of the Social Sciences*, Vol. 10, p. 637.

[37] Montesquieu, *The Spirit of Laws*, Edinburgh (1793), fifth edition, Vol. 1, p. vii.

[38] *The Encyclopaedia Americana*, Vol. 19, p. 403.

In the eighteenth century, English philosopher David Hume wrote an interesting easy on *That Politics May Be Reduced To a Science.*[41] In this essay Hume demonstrated the feasibility of deducing universal principles of politics from observation on governments in history. He also proved that such principles might offer useful guide to sound political conduct. But his own deduction could not be convincing when it laid down "as an universal axiom in politics 'that an hereditary prince, a nobility without vassals, and a people voting by their representatives, form the best monarch, aristocracy and democracy'."[42]

Efforts to make politics a real science were greatly strengthened in the nineteenth century "under the powerful stimulus of scientific advance"[43]. "The nineteenth century" points out Professor Maxey "saw science move on to new and more spectacular triumphs, and in the beginnings of modern biology, geology, paleontology and anthropology found abundant promise of sciences which might penetrate the mysteries of organic life, indeed of social life, as successfully as the older sciences had solved the riddles of mechanics"[44]. Consequently all the distinguished thinkers of the age like Saint Simon (1760-1825)[45] Auguste Comte (1798-1857),[46] George Cornewall Lewis (1802-63),[47] Herbert Spencer (1820-1903)[48] and Walter Bagehot (1826-77) appealed to science as a method of clear analysis of social and political phenomena. Saint Simon was convinced that a 'science of humanity' a comprehensive outlook on the field of human affairs should be created "for the advancement of human well-being"[49]. He greatly influenced Auguste Comte also. Comte believed that human problems could be studied by same methods as had been proved useful in natural sciences.[50] In Comte's *Positive Polity* (1851-54) we find the beginnings of a definite science of society corresponding to physics or chemistry—'social physics', a term "which spoke of his initial belief that natural law as revealed by physical science was also applicable to human life and human relationships within the community." [51] Later on, he substituted 'sociology' for 'social physics'. [52] Impact of the natural sciences took a different turn with Lewis who was exclusively concerned with finding out a scientific methodology in politics. His efforts to fix the exact meaning of political terms were a remarkable pioneering performance.[53] One of his important contributions was the consideration of "the possible application of physical science methodology in politics" [54]. On the other hand, Herbert Spencer was greatly influenced by biology.[55] With him Darwin's theory of evolution became an important factor in the interpretation of social facts. His theory of the State as an organism was an adaptation of biological thinking to political phenomena.[56] Likewise, Walter Bagehot clearly underlined in *Physics and Politics* (1827) the implications of Darwinism and ethnographic writings of Tylor and Lubbock in the study of political community.[57] Both Spencer and Bagehot were 'Social Darwinists'.[58]

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[39] Shephard, W. J., *ibid.*

[40] Cole, G. D. H., Theories and Forms of Political Organisation in *An Outline of Modern Knowledge*, ed. by Rose, W., London (1931), p. 713.

[41] Hume, *Moral and Political Philosophy*, ed. by Aiken, H. D., New York (1948), pp. 295-306.

[42] Hume, D., *ibid*, p. 298.

[43] Cole, G. D. H., *ibid.*, p. 703.

[44] Maxey, C. C, *Political Philosophies*, revised ed., New York (1949), p. 543.

[45] Principal Political writings of Saint Simon were *Letters of a Resident of Geneva* (1802), *The Reorganisation of European Society* (1814) and *The Industrial System* (1821).

[46] His major writings include *Positive Philosophy* (1830-42) *and System of Positive Polity* (1851-54).

[47] His works are *Remarks on the Use and Abuse of Some Political Terms* (1892) and *A Treatise on the Method of Observation and Reasoning in Politics* (1852).

[48] His important political works are *Social Statics* (1850) and *The Man versus the State* (1884).

[49] Cole, G. D. H., *A History of Socialist Thought*, Vol. 1. Socialist Thought: The Forerunners, 1789-1850, London (1952), pp. 89-40.

From Aristotle to Bagehot there has been a considerable use of scientific methods in the analysis and interpretation of political facts. Use of such methods became widespread in the nineteenth century and is now being reinforced by the successful introduction of mathematical and statistical analysis. Contemporary empirical approach has enabled politics to become an instrument for political action. Yet politics faces certain peculiar difficulties, for which the legitimacy of the association of science to politics is often questioned. Obviously then, an analysis of these difficulties becomes an immediate necessity.

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[50] *The Positive Philosophy of Auguste Comte* tr. by Martineau, H., London (1853), Vol. 2, Bk. V, *Social Physics* especially Ch. 1.

Cole, G. D. H., AUGUSTE COMTE in *Essays in Social Theory*, London (1950), p. 159. Coker, F.W., "*Organismic Theories of the State*, New York (1910), p. 116.

[51] Ridley, G. N., *Man : The Verdict of Science*, London (1946), p. 91.

[52] *The Positive Philosophy of Auguste Comte*, Vol. 2, p. 58.

[53] Lewis. G. C., *Remarks on the Use and Abuse of Some Political Terms*, New ed. Oxford (1898).

[54] Heinberg, J. G., Lewis, George Cornewall in *Encyclopaedia of the Social Sciences*, Vol. 9, p. 426.

[55] Coker, F. W., *ibid.*, p. 124.

[56] Joad, C. E. M., Spencer Herbert in *Encyclopaedia of the Social Sciences*, Vol. 14, p. 295.

[57] Lerner, M., Bagehot Walter in *Encyclopaedia of the Social Sciences*, Vol. 2, p. 385.

[58] Mason, S. F., *A History of the Sciences : Main Currents of Scientific Thought*, London (1953), p. 341.

ANALYTICAL SURVEY

Opposition to the use of the term *science* in relation to *politics* is principally based on two grounds. *First,* it is due to the traditional interpretation of the term *science* in the technical sense. *Second,* it is caused by several peculiar difficulties involved in the analysis and study of political phenomena.

The word *science* is derived from the Latin root *scientia,* from *scire,* which means to learn, know. 'Science' is broadly a synonym for organized knowledge. If then, this word is interpretated as "the sum of co-ordinated knowledge relative to a determined subject", it can be applied to any type of disciplined knowledge. And it is on this interpretation that the International Political Science Conference at its 1948 session in Paris accepted the existence of a science of politics. The conference held that "political science exists whereever political phenomena have given rise to speculation, analysis and criticism." [59]

However, the word *science* is not interpreted in such broad terms in general usage. It is rather given a more restricted meaning, which differentiates 'science' from other branches of knowledge.[60] Science refers to the "body of systematic principles and more especially to disciplines whose principles are universally accepted or have reached the greatest perfection, as for example, the physical sciences" [61]. Science thus stands for a certain type of knowledge, not merely for knowledge. Such type of knowledge is marked by accuracy, verifiability and logical thought. In this context, 'science' is a short word for the 'natural sciences'. It does not automatically refer to social and political knowledge.

It was on such interpretation of the term *science* that *politics* was specifically excluded from the Statute of the Royal Society in Britain. Royal Society is a foremost official organisation of scientists, which came into existence in the seventeenth century.[62] Its Statute was drawn up by its Curator, Robert Hooke in 1663. Mr. Hooke wrote: "The business and designs of the Royal Society is to improve the knowledge of natural things, and all useful Arts,

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[59] Salvodari, M., *ibid.*, p. 4.

[60] *Encyclopaedia Britannica*, Vol 20 p. 113.

[61] Ginsberg, B , Science in the *Encyclopaedia of the Sciences*, Vol. 13, p. 591.

[62] Scientific Societies came into existence in Italy, Britain and France in the seventeenth century in recognition of the great advances of the Natural Sciences. These societies discussed technical problems and avoided general social, political and philosophical questions.

Manufactures, Mechanick practices, Engynes, and Inventions by Experiments—(not meddling with Divinity, Metaphysics, Moralls, Politicks, Grammar, Rhetorick, or Logick).''[63] This tradition of excluding politics from the domain of science continues even to-day in Britain, France, America and in India. In America an effort was made as late as in 1946 to include the social sciences in the National Science Foundation. Both the Senate and the House of Representatives rejected the claim of equality of the social sciences with the natural sciences. In India also such a distinction between the social and the natural sciences is followed, although the Indian Science Congress has recognized education, sociology and anthropology as scientific disciplines.

The word *science* has come to this restricted interpretation for historical reasons. Systematic study of nature and the physical environment has preceded, at least by centuries, systematic study of man and his society. Study of man had to depend on high level of study of nature. Although man is an integral part of nature, he came late as a specific field of study. Consequently, the natural and social 'sciences' are at ''different stages of development and acceptance''[64]. What is more, the social sciences have not yet reached the high degree of accuracy and precision of the natural sciences. This is one of the main reasons why there is so much of reluctance in extending the term *science* to the study of social and political relations of man.

Apart from the historically restricted meaning of the word *science*, there is another reason for the opposition to the association of the term *science* to *politics*. It centres round some of the peculiar difficulties inherent in the study of political phenomena. Such difficulties, indeed, mark out the study of politics from the natural sciences and indicate the limitations of politics as a science. In the first place, materials investigated in politics, are fundamentally different from the materials of the natural sciences. Political phenomena like nationalism, democracy, human rights, etc. are inherently complex. Their complexity is enormously increased by their dependence on physical, biological and psychological factors. Each phenomenon is integrally related to a particular history, heritage and environment. It is no less determined by the social and economic structure of the place concerned. What is more, political entities are ''in a constant state of flux''. And ''the constellation of interacting forces changes continuously"[65]. Such complexity is equally present in the case of political institutions like government and political parties or political attitudes like public opinion.

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[63] Mason, S. F., *ibid.*, p. 207.

[64] Barber, B., *Science and the Social Order*, Glencoe (1952), p. 239.

Materials of the natural sciences are no less complex. Although they also depend on a number of variable factors; each variable is relatively easily controllable than it is the case in politics. In their degree of complexity, materials of the biological sciences are to a greater extent comparable to the materials of politics. Investigation into life process is equally complicated as the investigation into political process because life process, no less than political, depends on various factors. This complexity of the biological materials has, however, been brought under greater control by improvements of methods of investigation accompanied by improved technique. Such developments are as yet not fully known to politics.

Consequently, the materials of politics are subject to a larger number of variables than the materials of the natural sciences. This subjection makes impossible first, the comparison of political facts of one country with another country, second, application of "rigorous scientific methods of investigation"[66] and experiment, and, third, induction of such "relatively simple laws as prevail in physics"[67].

Political phenomena, institutions and attitudes are a distinct product of a people's history, heritage and environment. Although in broad terms, they may resemble facts of another people, they will widely differ from one another in details. Such differences are caused not only due to space, but also due to time. For example, nationalism is a middle class movement in history. This element may be present in the nationalist movement in each country. But it might look so different in the presence of numerous other factors like the political status of the country, the role of the feudal and working classes, peasantry, etc. that similarities might tend to become superficial. After all, the nationalism in India is not same as nationalism in People's China. Likewise, the government and the political parties differ widely from country. Although two nations might have democratic forms of government, their governments might differ widely because of their differences of culture, economic development and public education. Even within a single nation, political phenomenon like nationalism or political institution like government may differ from one period to another. In such cases then, it is extremely

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[65] Mannheim, K., *Ideology and Utopia*, London (1946), p. 103.

[66] Garner, J. W., *ibid.*, p. 10.

[67] Cohen, M. R, Method, Scientific in the *Encyclopaedia of the Social Sciences*, Vol. 10. p. 392.

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difficult to compare politics and political institutions of different peoples. Even if we venture a comparison we have to make allowance for too many exceptions.

The difficulty is practically non-existent in the case of natural sciences. Phenomena of physics, chemistry, and even of biology, are everywhere identical. Indeed, as Bryce points out: "Oxygen and sulphur behave in the same way in Europe and in Australia and in Sirius".[68] A proportionate mixture of oxygen and hydrogen in a certain temperature would produce water anywhere. But we cannot say the same thing about the results of working of democratic institution in two countries. Whereas it is possible to find out "laws in natural phenomena, which would have a universal validity, it is not possible to do so in political phenomena". Nor is it possible to experiment with political phenomena like democracy and dictatorship. Such phenomena are subject to so many variable factors like the material resources, environment and character of the people, etc., that it would always be difficult, if not impossible, to isolate each variable factor and guard against the unintended external interference. As Mr. Cohen points out "in the social field it is impossible to vary one factor at a time and to be sure that the others have remained the same".[69] Until this is done there can be no question of controlled experiment in politics. Where experiment is not possible, the question of repeating becomes superfluous. Similar problems were not wholly unknown in natural sciences but they have been partly solved. In natural sciences, it is possible, in majority of cases, to control variable factors and to isolate an object with a view to avoiding external interference. Whereas it is possible to have controlled experiment with inert carbon or hydrogen, it is not possible to carry one similar experiment with democracy or dictatorship.

Although controlled experiments are not possible in political phenomena, experiments are not completely ruled out in them. The government carries out continuous practical experiment on the community. Indeed, as Mr. Lewis points out: "All new measures, all laws enacted for the first time, are in the nature of experiments made for a practical purpose".[70] Their results are carefully noted for correct guidance in future. Even a political party carries on

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[68] Bryce, J., *Modern Democracies*, London (1921), Vol. 1, p. 16.
[69] Cohen, M. R., *ibid.*, p. 392.
[70] Lewis. G. C., *A Treatise on the Methods of Observation and Reasoning in Politics*, London (1852), Vol. I, p. 173.

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experiments with its programme in relation to the public opinion. To the extent the government and the party would be able to learn from such experiments, they would be able to secure mass support and give successful leadership.

When the political phenomena do not permit comparative study and controlled experiments, it is only too natural that they would not easily lend themselves to induction of laws of prediction. In the natural sciences, the study of materials leads to formulation of laws about them, and such laws like laws of motion, thermodynamics, etc., become better guide to the control and understanding of the materials concerned. These laws, it should be noted, are never final. They assure a probable certainty of behaviour of the materials under certain conditions. They "provide an important grip on the future"[71] to that extent alone. In biological sciences, because of 'the complication of empirical phenomena'[72] laws are less certain than the laws of the physical sciences. Laws of political phenomena, if they can at all be called laws, are even less certain than the laws of biology. They have to depend too much on psychological facts and a number of other uncontrollable variables. Political forces do not behave in a static and stable way necessary to make the resulting science completely predictional. Compared to laws in physics and in biology, laws of politics are less precise and provide a lesser grip on future. We may be almost absolutely sure how two falling bodies would behave in space or how plants would manufacture food with the help of sun's rays, but we can never be sure as to how different peoples would react to democracy in different places and in different times. Even if it is possible some day to formulate laws about political phenomena and political behaviour, such laws would be qualitatively different from laws of physics and biology. They would not be certainties but would carry a lesser degree of probability. Predictability of a political 'science' would always be lesser than that of the natural sciences.

Difficulties of controlling the materials of politics are also due to the special role of the observer. Political phenomena and forces are as much physical facts as psychological and subjective experiences. Every individual is a participant in the interaction of those forces. As a result almost each is a partisan on political questions. Naturally the question of bias in a political observer assumes a great importance. Here the observer is a part of the observed and an active participant in it. This particular problem does not arise to such a degree in the natural sciences. In fact, this is one of the reasons why controlling the materials of politics becomes so difficult. A political scientist is a part of the environment in which he lives and he never succeeds in freeing himself entirely from dependence on the dominant preconceptions and biases of his environment. Study of political facts is generally permeated by value judgment of the student.

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[71] Ginzburg, B., *ibid.*, p. 593.

[72] Ginzburg, B., *ibid.*

However, the problem of bias, although significant, does not seem to be formidable. Bias may be avoided by the examination of political facts of one country by the expert of another. This procedure was successfully followed by the Carnegie Corporation of New York in inviting the Swedish expert Dr. Gunnar Myrdal in 1937 to become the director of " a comprehensive study ot the Negro in the United States, to be undertaken in a wholly objective and dispassionate way as a social phenomenon ".[73] Although Myrdal was helped by a group of American experts he was exclusively responsible for the study as a whole. And his *An American Dilemma : The Negro Problem and Modern Democracy* (1944) is an admirable demonstration of the possibility of objective research in social and political science. This method was also followed by the Government of India when it invited through the UNESCO Dr. Gardner Murphey in 1949 to investigate the human behaviour and social tension in India. Murphey's study of *In the Minds of Men* (1953) is another example of how foreign experts can do objective socio-political research.

There is another way in which the problem of bias can be solved by national experts. It is the policy of sticking to ' hard facts '. In America a great deal of stress is given on the empirical 'fact finding' in social sciences. This policy is usually accompanied by an " entirely negative device of refusing to arrange its results for practical and political utilization ".[74] But, in neither way it is wholly possible to exclude value judgment. The very selection of facts might be affected in subtle ways by *a priori* speculation.[75]

According to Dr. Myrdal, the best way to solve the problem is to make the valuation explicit. Says Dr. Myrdal : "There is no other device for excluding biases in social sciences than to face the valuations and to introduce them as explicitly stated, specific, and sufficiently concretized value premises. If this is done, it will be possible to determine in a rational way, and openly to account for the direction of theoretical research, it will further be possible to cleanse the scientific workshop from concealed, but ever resurgent, distorting valuations ".[76] He follows this method all through his study of the negro question. Such a method "fixes his readers' attention on the matter and thus aids them to criticize his value premises and conclusions".[77] So, the problem of bias as a special problem of political research would not be a formidable obstacle in future.

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[73] Myrdal, G., Author's Preface in *An American Dilemma : The Negro Problem and Modern Democracy*, New York (1944), p. ix.

[74] Myrdal, G., *ibid.*, p. 1041.

[75] Dr. Myrdal has made an excellent study of the whole question in Appendix of his great work under the title of *A Methodological Note on Facts and Valuations in Social Science*. Sec. 2. of this Note contains a valuable discussion on *Methods of Mitigating Biases in Social Science*.

Nevertheless, 'bias' would continue to be a demarcating line between the political and the natural sciences. Because the political forces have a subjective basis they would always arouse feelings relatively unknown in the natural sciences. Nationalism and liberty evoke real feelings in us, but oxygen and carbondioxide do not. Although such feelings may be mitigated by the methods discusssd above, they can never be wholly shelved in any political research.

Another difficulty, which is peculiar to political 'science' in contrast to the natural sciences, lies in the dependence of political 'science' on various auxiliary branches of human knowledge. Political science depends too much on history, economics, sociology, anthropology, ethnology, law and social and individual psychology. These disciplines "themselves have not yet been fully developed".[78] A highly developed psychology alone can contribute a great deal towards an understanding of human nature. Such understanding, suggests Professor Cole, can be the real basis of a universal Science of Politics.[79] Although separate aspects of man have been effectively studied, "there is, at present, no compact and unified body of thought dealing with human characteristics as a whole."[80] Consequently, as yet there is no 'science of human nature'[81] comparable to the physical or the chemical sciences.[82] Such a science can, nevertheless, be developed by further improvements of the aforesaid disciplines and their integration in varying degrees with anatomy, physiology and biology. This is still a distant hope, and on its realisation depends the prospect of a scientific politics.

In the next place, the scientific character of politics is impaired greatly because of the lack of a clear and stable terminology. Most of the terms of political science are taken over from the common speech. It has an advantage as well as a danger. As Professor Aron remarks: "The advantage is that the subject is readily accessible to all; while the risk is that it may suffer from the same ambiguity as other contemporary debates."[83] Although these words have been 'technicalized'[84] they are still as vague as before. Naturally they give rise to 'inconclusive arguments', 'confusion of thought' and 'opportunity for delusion'.[85] The key terms of political 'science' like *state*, *nation*, *class*, *liberty*, *dictatorship* and *democracy* can be given diverse interpretations. To give one extreme example, Oxford's *A New English Dictionary* gives forty variety of meaning to the word *State*.[86] In the same way, the terms like *nation*, *class* and *democracy* mean different concepts to different peoples. Their meaning varies in the context of time as well. Commenting on the word *democracy* Mr. Ivor Brown remarks that it means so many things that it means nothing at all.[87] Current international political struggle between East and West becomes more confusing because of reckless use of the word *democracy* by each side in a completely contradictory form.

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[76] Myrdal, G., *ibid.*, pp. 1043-44.

[77] Myrdal, G., *ibid.*, p. 1045.

[78] Shephard, W. J., *ibid*, p. 428.

[79] Cole, G. D. H, *Theories and Forms of Political Organisation* in *An Outline of Modern Knowledge* ed. by Dr. Rose, W. London (1931), p. 701.

[80] Ridley, G. N., *ibid.*, p. 16

[81] Dewey, J. *Human Nature and Conduct*, New York (1948 reprint), p 3.

[82] Venable, V. *Human Nature : A Marxist View.*

Political 'science' becomes confused as it has not yet developed its own technical terms in the sense that these terms "have a fixed and unvarying signification, in different contexts meaning the same thing."[88] It does not enjoy, nor can it possibly ever do, the freedom of the natural sciences to coin new words for a scientific notion. It cannot do so partly because of the nature of the subject matter, partly due to a long heritage of usage, and lack of sufficient international collaboration among political scientists.

Nevertheless, if politics is to be an effective science "it must endeavour to employ the terms state, law, state power, constitution, sovereignty, territory, people and the like as clear and unambiguous concepts".[89] If the terms cannot be made completely precise and exact, they can at least be made clear in each context of use. Professor Catlin suggests that much good critical work in this direction can be done by testing definitions and old generalizations.[90] In fact, such semantics (inquiry into the meaning of language or words) of politics would strengthen the cause of a political science. Several competent studies have already been made in this field by Lewis,[91] Weldon,[92] Lesswell and Leites.[93]

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[83] Aron, R., *Political Science in France* in UNESCO's *Contemporary Political Science* Paris (1950), p 59.

[84] Lewise, G. C., *ibid*, pp. 78-79.

[85] Lewis, G. C., *Remarks on the Use & Abuse of Some Political Terms.* New ed. Oxford (1898), pp. 3 and 8.

[86] Vol. IX, Pt 1, pp. 849-55.

[87] Brown, L., *The Meaning of Democracy*. New and rev. ed. London (1926), p. vii.

[88] Lewis, G. C. "*A Treatise on the Methods of Observation and Reasoning in Politics.*" London (1852) Vol. 1. p. 91.

[89] Heller, H., *ibid.*, p. 210.

[90] Catlin, G. E. G., *The Science and Method of Politics*, London (1927), p. 143.

Incidentally, it may be mentioned that too much of attention to semantics might, indeed, have a bad effect. In the name of scrutinising words, we might destroy the age-old concept and become cynical about the utility of every term. Consciousness about the words can easily become overbearing. In that case, 'values' would be destroyed for the lack of a clear expression. While the importance of the analysis of language is not denied as a means of improving the science of politics, too much of emphasis on this particular point has to be resisted. Political terms can be stabilised, as indicated before[94], by the collaboration of political scientists on an international plane. If certain meanings are fixed for certain words and scrupulously adhered to everywhere, it is possible to evolve a precise terminology. This method has been found useful in the formulation of technical terms in natural and biological sciences.

Finally, the status of politics as a science is badly affected by the fact that political research is especially in danger of falling a victim to pressure groups or of being corrupted by the government itself. Although it was one of the reasons why the American Congress refused to include social science in the National Science Foundation,[95] this reason is not necessarily applicable to social sciences in general. Natural sciences can also be equally corrupted to serve the sectional or the national interests. Presentday emphasis on destructive power of physical and chemical sciences indicates the real corruption of science. Recent spectacular developments in atomic physics and aerodynamics are caused principally by the war needs. However, in this sphere political 'science' stands on a weaker ground than natural sciences. Political 'science' can be easily employed as a propaganda instrument of the government. Moreover, the government might actively suppress search for political truth simply because such a search might stimulate an urge for reform or a change. Indeed, a free and frank research is more difficult and trying in political 'science'. than in the natural sciences. Mr. Baily, Director of

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[91] Lewis, G. C., *Remarks on the Use & Abuse of Some Political Terms.* New ed. Oxford (1898).

[92] Weldon, T. D., *The Vocabulary of Politics*, London (1953).

[93] Lasswell, H D. and Leites, N., *Language of Politics*, New York.

[94] See *supra*, p. 15.

[95] Lundenberg, G.A., *The Senate Ponders Social Science*, in The Scientific Monthly, Vol. 64 (1947), pp. 397-411.

Graduate Program School of Public and International Affairs, Princeton University, points out that in certain sectors like working of state legislature or voting behaviour, research is impossible in America today as the authorities fear that a knowledge in this field might be instrumental in the formulation of demands for certain kinds of change. He maintains further: "The recent Congressional investigations into the operations and policies of private foundations—barbaric and distorted as these investigations were reflected in part a true understanding of the possible consequences of social science scholarship."[96] It is clear indication how frontiers of political research can be limited by the interference of the government.

This difficulty is really formidable. But this stultifying factor of scientific politics can be eradicated only in a world free from fear and tension. As such a world is still a distant hope, this point would strengthen the claim of those who believe like Rousseau that "the science of politics is and probably always will be unknown"[97].

Politics as a science, thus, faces certain difficulties, which are partly caused by the peculiarity of the subject matter, partly by the role of the observer and partly by the social structure itself. Although all these difficulties can never be removed at the same time, most of them can be solved by the introduction of more and more scientific method in the analysis of political phenomena. Only a scientific approach can make this branch of knowledge useful to the decision maker. This knowledge should be useful both in improving political institutions and planning for a peaceful change. It might be the only answer in future to periodic lapses like strike, civil war, and war.

It is no reason why politics cannot be a science simply because it can never be equal in status with the natural sciences. Each particular 'science' has its own special difficulties and particular features. If a subject can be scientifically studied it can claim the dignity of a science. Politics has, indeed, reached that state at present. It is aiding the administrators or practitioners of government with valuable information. President Hoover's Committee study on *Recent Social Trends* and Mr. Leonard White's study of the administrative growth of federal government from Washington to the present[98] are two examples as to how social and political 'science' is acquiring great value to legislators and administrators.

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[96] Bailey, S. K., *New Research Frontiers of Interest to Legislators and Administrators* in *Research Frontiers in "Politics and Government"* Brookings Lectures, 1955 Washington (1955), p, 3.

[97] Rousseau, J. J , *Emile* (Everyman's ed.), p. 421.

A science of politics, then, exists to-day in the sense that "there is an important body of knowledge about the State, about the conditions under which different kinds of government emerge, about the characteristics of the different types, about the relation of government to the governed in different historical situations, about the modes in which governments carry on their functions according to their kind, and so forth".[99] But this science has not become nor possibly it can ever be, "a science of how to govern, an applied science".[100] Although it may not yet give a definite guide to the statesman, it is gradually strengthening him by offering useful factual guide. In future, it would, most certainly, make the art of ruling more intelligent and administration more efficient and serviceable.

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[98] Mr. White has published *The Federalists* (1918), *The Jeffersonians* (1951) and *The Jacksonians* (1954).

[99] Maciver, R. M., *The Web of Government*, New York (1947), p. 7.

[100] Maciver, R. M., *ibid.*, p. 8.

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THE NATURE OF THE UNIVERSAL

III

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10. The Prābhākara school of Mīmānsā accepts the reality of the universal which exists in each particular and which is an object of sense-perception.[1] But the relation between the universal and the particular is considered to be non-eternal, since a new relation of inherence is generated whenever a new particular comes into existence.[2] That this is a faulty position will become clear when we consider that the relation of inherence itself is self-contradictory, and when we note that Prābhakara emphasizes only the difference between the two.

The objects can be cognised and in that cognition we may not apprehend their differences. From a distance we do perceive two trees and take them to be merely trees without realising that one is totally different from the other. When we cognise a particular for the first time, we apprehend both the particular and the universal. The cognition of difference actually arises when another member of the same class is apprehended. Further even the cognition of a single object need not involve the cognition of its identity. In twilight we do refer to the same object and wonder whether it is a pillar or a man. In other words, we cognise two objects and may not be aware of their difference, while we may cognise one object and need not be conscious of its identity. When we apply this to the statements 'this is a cow', 'this too is a cow', we are taking them to be identical in so far as the universal is involved, and yet we distinguish the universal from the particular in the cognition of the 'this'.

And an inherent relation between the universal and the particular is illogical. Inherence is a relation between things that are inseparable. If the universal is different from the particular, it can have no *samavāya sambandha* with the particular; if it is different then there is no inherence. Further how are these two related, if at all they are related. To relate two things we are bringing a third factor called inherence. What is the relation of this inherence to the universal on the one hand and to the particular on the other? This requires another relation and so on the process will go *ad infinitum*. Moreover, we do not perceive the universal cow as inherently related to the particular cow. We do not have the distinction of the two into two separate entities in any cognition. What we have is a single unitary cognition. That this is so will become clearer when we attend to the word *cow* instead of the object *cow*.

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[1] Śālikanātha : *Prakaraṇapañcikā*, p. 17.
[2] *Ibid.*, p. 26.

The universal is sometimes said to be related to the particulars through *samavāya*. It is the relation of inherence which exists, according to the Vaiśeṣikas, between things that are inseparably connected. Now an inseparable relation is that in which one of the related things is always dependent on the other. Thus potness resides in pots but pots in potsherds; while clothness resides in cloths and cloth in threads. The universal resides in the particulars, but the particulars have their loci elsewhere. Thus there exist different loci for the universal and the particular, and this is against the nature of inherence. And since the whole and the parts have different loci, we cannot speak of the relation between the universal and the particular as a relation between the whole and its parts. For it is a fact of common experience that the parts may move without revealing any movement of the whole.[1] That is, the relation between the two is not so simple as the Vaiśeṣikas make out. It is a relatien between the container and the contained wherein the latter generates a corresponding cognition in the former.[2] That is, the universal inheres in the particular, whereby the former produces a cognition of itself in the latter. But this precludes all difference between the universal and the particular which is vital to the nature of both. Thus when we see a spotted cow and a speckled cow, we apprehend the same cowness no doubt; but in each case it is conditioned or modified by the locus. We perceive their specific differences and recognise in both the characteristics of the universal. The universal manifests the particular as possessing its own characteristics, because of the intimate relation. Hence the inclusive principle binds together the distinct entities, thus giving rise to an identity.[3] We apprehend on the other hand both the particular and the Universal as two different elements or aspects of the same whole. This is a fact of experience and no logic, says the Bhāṭṭa Mīmānsaka, can overrule the experience of identity in difference[1].

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[1] "Yady evam avayavāvayavinoḥ sambandhaḥ samavāyo na sy-āt, vināpy avayare casmenāvayavānām calanāt, avayavino 'avayavānām ca svāvayavāśrayatvāt. Tathā sāmānyasya vyaktyāśrayatvāt vyakteś ca svāvayarasritatvād asti pṛthag āśrayāśrayitvam iti samavāyānupapattih" (*Śāstradīpikā*, p. 100).

[2] "Yena sambandhenādheyam ādhare svānurūpām buddhim janayati svākāreṇa bodhayatīty arthah. Sa sambondhah samavāya iti" (*Ibid.*).

[3] "Idam eva hi tādrūpyam vyakter yat tat samavāyah sambandhah, tasyaiṣa mahimā yenādhāram ādheyam sva buddhyānurajyayati, tasmād adoṣah. Athavā tādātmya pratīter abhdopy astu, pūrvokta nyāyena bhedo pi; tasmāt pramāṇa balena bhinnābhinnatvam evayuktam" (*Ibid.*).

Identity in difference is not self-contradictory. In the example, '*x* is taller than *y*, but shorter than *z*', we find the co-existence of opposed qualities in the same person to be compatible. In the statement, 'That spotted cow is not speckled', we find distinction and agreement co-existing. Again many qualities may belong to the same object, but each quality differs from the other. The whole again is intrinsically not different from its parts, but difference enters when different parts are taken into consideration[2]. Thus it is argued that the Universal is related to the particular by way of the identity in difference. This is not apprehended in two cognitions, but only in one.

Leaving the question of identity in this view, let us consider the nature of difference. The Buddhist thinkers argue that difference can exist between two objects or between two qualities. If the universal is real, is it different from the particular or not? If it is different, the particular is not real; if it is not different, it reduces itself to the status of a particular. Then again, is the universal different from the real, or not? It cannot be both different and non-different[3]. If it is not different from the real, it becomes a particular; and if it is different, it becomes unreal.

To this charge of the Buddhists Pārthasārathi replies that we cannot arrive at the conclusion in an inference when there is no invariable concomitance between the major term and the middle term. The major term here is the universal (*vastutva*), and the middle term is identity-in-difference (*bhedābheda*). We do apprehend the invariable concomitance between these two, and hence the universal comes out to be real; and any conclusion to the contrary is illogical. Thus we get the argument :—

Identity in difference is the nature of the real;
The universal is an identity in difference
∴ The Universal is real

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[1] "Iyam gaur iti buddhi dvayam aparyāyena pratibhāsamānam ekam vastu dvyātmakam vyavasthāpayati. Sāmānādhikaraṇyam hy abhedam āpadayati, aparyāyatvam ca bhedam; ataḥ pratīti balād avirodhaḥ" (*Ibid.*, p. 101).

[2] "Yadā tu jāter vyakty antarātmanā rūpyate tedeyam vyaktis tato bhinna rūpāvasīyate ...." (*Ibid.*).

[3] *Śāstradīpikā*, p. 99 : "Sāmānyam api yadi vastu syāt, tato 'nenāpi bhinnenābhinnena vā bhavitavyam."

Moreover, how can one deny the universal unless he presupposes its reality and existence[1]. Yet one may argue that reality is universal, not in a literal way but in an accidental way. But whether it is figurative or not, reality is imbedded in the very nature of the universal. If words are only due to *upādhi* or accidental conditions, they fail to denote the objects[2]. Words do function with reference to the objects, and they derive their significance from *upādhi* which *upādhi* can be no other than a fundamental common property running in all. And this is the nature of the universal.

In this argument the major premis is open to question. How can identity in difference be the nature of the real? Reality cannot be both *is* and *is not*, for non-contradiction is the criterion of truth and reality. We cannot even say that the apprehension of identity in difference is a fact of experience and therefore real; for in such a case the blueness of the sky, which is in reality colourless, has to exist and be real[3].

Further, if the universal is apprehended only in a medium in which it is supposed to be implicit, the medium itself will fulfil the functions of a universal. And the medium varies from class to class; and from particular to particular of the same class too it varies preserving a specific identity[4]. We cannot think of any relation subsisting between the universal and the medium, if the universal were to be treated as different from the medium; for any relation will involve all the troubles that *samavāya sambandha* brings. Consequently, we can only define the universal as the medium or the finite centre. This *upādhi* is not a quality or adjective. The quality is a qualification *per proprium* and it is a distinctive mark which is syntactically related to the predicate. But *upādhi* is a qualification *per accidens*, and it is that which, while present distinguishes without any syntactical relation to predicate. Thus in a blue pot the blue is a quality, while the ear-cavity which limits the ether is an *upādhi* aiding the sense of hearing[5].

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[1] *Ibid.*

[2] "Aupādhikānām api mūlopalakṣaṇam ekam antareṇa ātma tābhābhāvāt" (*Ibid.*) .

[3] *Citsukhi* p 304 : "Yatra yat pratīyate, tatra tad vartata iti pratīticaraṇa śaranatve 'pi ryanjakāngīkaraṇa vaiyarthyam. Pratīti mātrāc ca tathatvāngīkāre nabho nīlimāder api tathatvāpātaḥ."

[4] "Kim ca jāti svīkāra vādināpīyam jātir, iyam jātir. ity anuvṛtta pratyaya siddhaye kascid upādhir eṣṭavyah ; tathā ca sāvatrikah sa evānuvṛtta pratyaya karaṇam astu, tad alam jāti kalpanā dur vvasnena" (*Ibid.*).

[5] *Vedāntaparibhāṣā*. p. 103 : "Viseṣaṇam ca kāryānvayi, vyāvartakam, pādhis ca kāryānanvayi, vyāvartako, vartamānas ca Yathā—rūpa visiṣṭo ghaṭo 'nitya 'ity atra 'rūpam' viśeṣaṇam, Karna saśkulyavacchinam nabhah srotram' ity atra 'karṇa saśkuly' upādhih".

11. Discussing the origination of the world from the word, Śankara observes: While there exist the everlasting words, whose essence is the power of denotation in connection with their eternal significations (*i.e.* the forms denoted), the creation of such individual things as are capable of having those words applied to them is called the origination from those words[1]. In other words, the universal affirms itself in the empirical world through names and forms, that is, as particulars. It does not mean that the universal is something different from, and something that runs through, the particulars. For, an inherent relation is self-contradictory, and it cannot unite the universal with the particular; nor can we believe that the relation of the universal and the particular is one of identity in difference. The identity in difference will make out that this cow is identical with other cows because of the universal element present in both; and it is different from them because they are particulars; and these are the two aspects of the real. But later Advaita thinkers have rejected the universals since the perception of the same form in the many particulars does not establish the existence of the universal:

> "Na tāvad gaur ity abhinnākāragrāhi
> pratyakṣam jātah pramānam".[2]

For, the perception of the reflected moon in many vessels does not establish the reality of a universal moon[3]. We do not even cognise the same universal in all its particulars, for what we apprehend are only the primary qualities which are common to all. And the perception of same form does not amount to the perception of a universal. For, "if there is to be a form which is one man beyond many men, there will have to be a third man predicated of both man and men, and a fourth to be predicated of all three, and so on to infinity."[4] The particular cow is cognised by us not as enlivened by the universal cowness but as characterised by the dewlap and other significant or differentiating features.[5] If we do not take this differentia, then the suggestion or manifestation of cowness will become inexplicable. If we say that the indicator resides where the universal resides, there is the fallacy of mutual dependence; for the knowledge of the one is necessary for the knowledge of the other.[1]

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[1] On *Vedānta Sūtra*, 1.3.23: "Sthite vācakātamā nitye sabde nityārtha sambandhini sabda vyavahāra yogyārthavyakti niṣpattir ataḥ prabhava ity cyate".

[2] Citsukha: *Tattvapradīpikā*, p. 303.

[3] "Ekavyakteḥ go svabhāva vad vyakty antarasyāpi go svabhāvatvād evāntareṇāpi śāmānyam anekodaka bhajaneṣv ayam candro 'yam candra iti vad avabhāsopapatteh". (*Ibid.*).

[4] T. Case: *The Development of Aristotle* (MIND, Vol. 34, p. 83).

[5] "Sāsnādimad vyaktes tan mati gocaratvāt" (*Citsukhi*, p. 303).

The universal may be spoken of as co-extensive with the particulars. If so, it cannot apply to objects that have not yet come into existence. The universal in an existent particular cannot be related to a particular that has just sprung into existence, for activity can be predicated of the individual alone. Moreover, if the universal is to be present in the second particular, the former will lose its universal element. Nor can the universal divide itself into two parts since there can be no parts in it.[2] We cannot say that the universal comes into existence with the particular, for the universal is real and permanent and hence cannot be produced. We cannot also say that even before a particular has come into existence there is the universal; for this universal will have no definite locus, and hence it will give the conclusion that a universal can be everywhere. In such a case we will have to cognise cowness in a horse.[3] Hence the Buddhist philosophers have observed :

> " Nāyāti na ca tatrāsīd asti paścān na cāmśavat
> Jahāti pūrvannādhāram aho vyasana santatiḥ." [4]

Then, again, what happens to the universal when all its species become extinct? The universal has to cease to exist since its locus or medium is not in existence. Devoid of a relation to a particular, and devoid of a locus or a medium, the universal is a non-entity :

> " Sarva piṇḍa pralaye ca ghaṭatvādijāter uccheda prasangaḥ. Sambandhi vigame 'pi tasyaḥ svarūpenavasthanam iti cet; na ādhāra vigame py ādheyāvasthāne rūpāder api tathāvasthiter nityatva prasangaḥ." [5]

When the universal and the particular are only the two elements or aspects of the same whole, with the disappearance of the species, the universal also disappears from the shere of the existents. But conceptually it may remain, in which case it presupposes and presumes the objects to have existed in the past. And if the idea of the past existence does not creep in, then that universal will have only subjective or mental existence.

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[1] "Anyathā gotva vyanjakatvam gotva vyakter vsti pratyavasthānasya jātāv api tulyatvāt" (*Ibid.*, p. 304).

[2] "Nāpi piṇḍa sarvagatā jātiḥ Pratyagra jāyamāna khaṇḍa muṇḍādi piṇḍeṣu piṇḍāntara sthitāyā jāteḥ sambandhābhāva prasangāt. Na hi sā piṇḍāntarādutphityātrānupraviśati, niṣkriyatvāt. Tat parityāge "ca pūrva piṇḍe tad vyavahārābhāva prasangāt. Na cāmśabhyām ubhayatra vṛttiḥ anamsatvat". (*Ibid.*, p. 306).

[3] "Svasāmagrīvaśād upajāyamānaḥ piṇḍas taj jātyālingita evctpadyata iti con; na, piṇḍotpattaḥ prāk tatra tasya.

[4] *Ibid.*, abhāvāt. Bhāve ca sarva sarva gatāvāpatteḥ". (*Ibid*).

[5] *Citsukhi*, 306-07. *Cf.* p. 191.

To obviate the difficulty of accounting for the presence of a universal where previously it was not, we have the *sarvasarvagata* view of the Vaiśeṣikas and the *Sarvagata* doctrine of the Mīmānsakas. The universal is all-pervasive, but it is only the particulars that reveal it.[1] Here we have either an inherent relation or an identity in difference between the two. How do we cognise the universal? Potness may be said to be inherently related to the pot, and the pot is conjoined to the sense organ. We cognise the potness, and the relation between the percipient and the potness is one of *samyukta samavāya*. *B* and *C* are integrally related to one another, while *A* and B are conjoined; and *A* is related to *C* through *B* which is related in its turn directly to *C*. That is, the all-pervading universal is apprehended only where it is closely related to the particular. It does not mean that the universal is absent at other places.[2] This position may lead to the problem, whether the universal is a whole made up of parts. The moment we think of the parts, that very moment we falsify its nature.[3] The universal is differentiated neither in itself nor in its parts, since it is one and devoid of parts.[4] It cannot be characterised as a whole, since a whole is relative to its parts and the universal has no parts. We cannot even speak of the part as constituting the whole, for the whole object does not reside in either half of it. The whole resides in all its parts taken together, as the cloth is apprehended in the aggregate of the threads. But the universal resides in each particular.[5] Hence we cannot cognise the cloth in a single thread, but we do cognise the cowness in the particular cow.[6] If so, the entire universal must be present in a single object, thus removing the universal element from the other particulars. Or, it has to exist in all the particulars taken distributively, thereby becoming a whole of parts. Or, else it has to be in all the particulars taken collectively; and if so it would be cognised only when all the particulars are cognised simultaneously.

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[1] *Śāstradīpikā*, p. 102. "Yad vastu sarvagatam sāmānyam, na ca sarvatropalabdhi prasangaḥ, vyaktinām abhivyanjakatvāt."

[2] Samyukta samavāya sannikarṣeṇa ca sāmānyalyypalambhāt, tena ca sannikarṣo vyakti deśe eva sambhavati, nānyatreti na sarvatropalabdhiḥ" (*Ibid*).

[3] Plato : *Parmanides*, p. 131.

[4] "Na ca sāmānyasya svarūpato 'vayavato vābhedc 'eti, ekatvād anavayavatvācca" *Śāstradīpikā*, p. 102).

[5] "Sāmānyam pratyekam vartata, avayavī tu vyāsajyety evam viśeṣaḥ" (*Ibid.*).

[6] Na hy ekasyām eva vyaktau go buddhivad, ekasmi eva tantau paṭa buddhir utpadyate (*Ibid.*, 103).

The universal cannot be *sarvagata* or ubiquitous. Each class of objects has its own universal, and the universal is thus seen to get itself limited or restricted. As Citsukha observes:

> "Na tāvaj jāteḥ sarva vyakti saṃyogo, 'dravyatvāt.
> Na tādatmya samavāyau, sarva vyaktiṣu sarva
> jātinām tādātmye samavāye vā, sarvasya
> sarvātmatā pratīti prasangāt".[1]

If the universal is all-pervasive, it should be apprehended, or at least felt, not only in the objects of one class but in those of another class. It should also be felt in a space where there are no objects. It is said by Pārthasārathi and Jayants that it is manifested only in that particular class which is proper to it, for only those particulars have the power to reveal it. The universal thus suffers under a disadvantage and gets itself related to a certain specific class. In such a case the universal loses its all-pervasiveness and becomes finite, thus differing from its particular only in degree. Thus the particular and the universal are equally finite embodiments. But the particular seems to have greater powers, for the nature of the manifestation of the universal depends upon the constitution and nature of the particular. Consequently the principle behind all phenomena becomes as significant as the phenomena. Yet we are in no way better off since our fundamental problem, *viz.* the relation, has remained completely unsolved. The relation between the universal and the particular can be neither mere conjunction or contact nor identity. Since the universal is eternal and all pervading, we have to cognise the cow in the horse if there is a simple conjunction or external relation only. Coherence or *samavāya* is a selfcontradictory relation. If it is a case of identity, it will be fleeting and finite.

12. The universal cannot be explained so long as we think in terms of identity or difference. Until and unless we give up the idea of a great distinction between the universal and the particular we cannot solve the question. Further, we have also to give up the plurality of particulars, for it is this very plurality that has made all relation difficult. Instead we have to focus our attention on the concrete particular which is limited and conditioned by space and time. This avenue may yield a possible solution to the problem. In this context we find Śankara observing :

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[1] *Citsukhī*, 305-06.

> "Sthāna viśesa sambandha nimittaś cendrādi śabdāḥ,
> senāpatyādi śabdavat. Tataśca yo yas tat tat sthānam
> adhirohati, sa sa indrādi śabdair abhidhīyata iti na
> doṣo bhavati.[1]"

We have the objects *Indra* and *Candra*. Each object is one and indivisible. The word refers to the object. Does the word refer to the universal Indra? It cannot for this alleged universal is a fiction owing to the non-existence of its necessary multiple particulars. And yet we have seen that no word can denote a particular directly. Hence, we have to take it for granted that by *Indra* we have to mean that object which occupies a definite position or place, which place or station provides the key to the nature of the object. Thus *Indra* is a person delimited by space and time; and even though the word *Indra,* is a universal by virtue of its being a proper name, still it reveals the object as manifested through an *upādhi.* The words refers to and denotes only the upādhi or the medium of articulation; and the universal here has no need to repeat itself. A single individual can afford to be a universal so long as the true universal appears only conditioned or determined.

13. The universal is not a quality but acquires an *upādhi.* It gets itself delimited. Though it is one it appears as many universals. We have the universal potness for all the particular pots. But in a universal called substance, even the pot becomes a member. That is, the same object can belong to many universals. Again, if a word is a universal, even a proper name must be a universal.[2] Viewed from another angle the proper name might also be a member of a universal. That is, the universal can become a particular when it becomes a member of a more comprehensive universal.[3] Since a universal ceases to be a universal the moment it is a particular perticipating in a different universal, how is this possible?[4]

The true universal is one and eternal. Due to the manifesting media, it appears as many, like the Absolute differentiated into a multiplicity of finite centres of experience. There are as many media as there are particulars; and the members of a class will have more or less the same medium. And the differences between the various classes are no other than the differences between the manifesting media. Hence, a universal which is relative to one class is a specific medium and therefore a particular when it is viewed in relation to the one universal. Consequently the universals, which are objective entities, must be many if they are to answer to the various classes of objects. But being only specific modifications of the universal they are not many in reality. Their multiplicity is only an appearance. We shall therefore call the true universal the Individual.

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[1] On *Vedānta Sūtra*, 1.3.28.

[2] Hetārāja on *Vakyapadīyam*, III. 12 : "Evam ca sanjnā śabdānāmapi jātivādi mate jāti śabdatvam ity ekaiva sabdānām pravṛttih."

[3] "Jātyabhidhāyino jāty ādi sabdā api jāti vācina eva" (*Ibid.*).

[4] "Niḥsāmānyāni sāmānyānīti" (*Ibid.*).

Therefore it is said that *jāti* or *upādhi*[1] is a conventional symbol employed for the sake of convenience. From the nomenclature we should not deduce the existence of a universal which is after all an appearance. The cognition, 'this is a pot', only proves the existence of potness, not the existence of a universal pot.[2] Since the perceptual experience itself fails to prove the existence of a universal pot, inference too can not establish it.[3] Further this apparent universal or *upādhi* is not eternal, nor can it be related to a particular without involving logical difficulties.[4] Consequently, we arrive at the true universal as being manifested to us in and through the varied media. The differences amongst the various media are essential in this manifestation since they provide the degrees of revelation; and all these manifestations are united by a common principle.

The universal is strictly objective, and is a unifying principle assuming specific forms. Thus the universal number can be only either odd or even. Its unity cannot be dissociated from its species, and its reality from its particulars. The differences between the species are resolved within it. Thus *red* and *blue* are the particulars of the universal *colour*; but their difference too lies in colour. The universal is a coherent system of reality which harmonises all the particulars and their differences. It is felt in apprehension and realised in thought.[5] When Antisthenes remarked, "I see a horse, but not horseness", Plato replied that it was because, though he had eyes, he had no intelligence. The intellect of man is creative and constructive, striving after the realization of the concrete. Its mainspring is a nisus to the concrete, and its law is one of organic systematization, not a mere repetition of instances.[1] The universal being self-subsistent and self-complete does not stand in need of a plurality of instances.

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[1] The distinction that is sometimes made between a *jāti* and an *upādhi* is illogical. See *Vedāntaparibhāṣā*, p. 69 : "Jātitvopādhitva paribhāṣāyāḥ sakala pramāṇa agocaratayā aprāmāṇikatvāt."

[2] "Ghaṭo 'yam ity ādi pratyakṣam hi ghaṭatvādi sadbhāve mānam, na tu tasya jātitve 'pi" (*Ibid*).

[3] "Jātitva rūpa sādhyāprasiddhau tat sādhakānumānasyāpi anvakāśāt" (*Ibid.*, p. 70).

[4] "Samavāyāsiddhyā brahma bhinna sakala prapancasyānityatayā ca nityatva samavetatva ghaṭita jātitvasya ghaṭatvādav asiddheśca" (*Ibid.*, p. 71).

[5] Cf. *Apohasiddhi*, p. 12 : "yat punah sāmānyābhāve sāmānya pratyayasyākasmikatvam uktam, tad ayuktam. Yataḥ pūrvapiṇḍa darśana smaraṇa sahakāriṇā atiricyamānā viśeṣa pratyaya janikā sāmagrī nirviṣayam sāmānyavikalpam utpādayati."

Thus, on the one hand we have objects distinct from one another, and their individuality lies in this very difference. On the other hand, we notice some similarity among the particulars of a class, and this similarity accounts for their classification into one group. The latter gives rise to a class ignoring the fundamental differences between any one member and another ; and it thus insists on the number of subjects which share a common predicate. The former refers to an organic unity of a system where the particulars, as distinct from one another, play a vital role being members of an organic whole. The importance of this system lies on the " number of predicates that can be attached to a single subject. It is the degree in which a systematic identity subordinates diversity to itself, or, more truly, reveals itself as the spirit of communion and totality, within which identity and difference are distinguishable but inseparable points of view.[2] Thus the universal is apprehended as a system. It is a habit of self adjusting response. It has very little to do with resemblance for it accepts differences as essential. The universal involves an adjustment to the differences.[3] The individual is the true universal, since the individual reveals a system, the plan of the whole. Hence as perfect and complete this universal is only one and does not require a plurality of similar instances which will exhibit only a character of imperfection. Since the universal is comprehensive and inclusive, a mere repetition which leaves no differences to be comprehended is fatal to comprehensiveness [4]. Each particular is a centre of articulation for the true universal, and each apparent universal does the same. Consequently, the particular member of a class owes his specific nature to' his being an apparent universal ; for the ordinary universal is vital and active through the differences between one member and another.

One fruitful source of error and confusion in the theories of the universal arises from the emphasis placed on the number of particulars. Repetition of the particulars is said to be necessary for a universal to manifest itself and to enable us to apprehend it. But the nature of the true universal is in no way affected by the number of its particulars. The peculiar nature of the universal has a certain feature which is independent of its presence in a plurality of objects. Its presence in the multiplicity of particulars is a sheer accident. On the other hand, it might so happen that the very multiplicity of particular might even prevent the central nexus of the intellect from its natural and genuine activity. For, repetition brings forth differences between one particular and another, and these differences are vital to the nature of the particular. But a universal endeavours to bridge up these differences, and it can achieve this task only when the multiplicity of particulars is not a necessary corollery of the universal. Then alone can we arrive at the true universal. Thus, "A man is particular by virtue of his limiting and exclusive relation to other phenomena. He is universal because he is one throughout all his different attributes. You may call him particular, or again universal, because, being individual, he actually is both, and you wish to emphasize one aspect or side of his individuality. The individual is both a concrete particular and a concrete universal; and, as names of the whole from different points of view, these both are names of real existence.[1] And extension in space or duration in time are enough to invest that which has them with the character of an identity into which differences enter. In contrast to its own internal diversity, the particular is a true universal.[2] Thus the particular realises its consummation by the awareness of differences and the organisation of these into a coherent system which articulates a common value and a common purpose. It is the capacity of the particulars to serve a common purpose that gives rise to the idea of the principle of unity.

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[1] *Cf.* Bosanquet : *Logic*, II. 184.
[2] B. Bosanquet : *Principle of Individuality*, p. 40.
[3] B. Bosanquet : *Logic*, II. 184.
[4] *Ibid.*, II. 104.

> "Yadeva vāha dohadi kāryam ekena janyate
> go piṇḍena tadevānyair iti teṣv anuvṛtti dhīḥ."[3]

Hence, we can conclude that each particular is a conditioned universal for its nexus is towards the whole. This feature which is a characteristic mark of fortitude is pregnant with rich suggestions as each particular fulfils its existence by suggesting its potential nature

14. Haldane observes: "Language enables us to think and compare our conceptions, and yet if there is anything which has become plain it is that language conveys, not the experience of the individual, because that is unique and incommunicable, but universals, conceptions which enable other people to view their individual experiencing from just the same plane or standpoint as our own.

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[1] F. H. Bradley: *Principles of Logic*, p. 175.
[2] *Ibid.*, p. 44. *Cf.* Bosanquet's *Logic* I. 14.
[3] *Nyāyamañjarī*, p. 301.

There is not a single word in language which does not import a universal. We talk in universals, and it is our social necessities which have caused us to develop our faculty of communicating in this fasion to an extent of which we are wholly unconscious."[1] The name of the word evokes the idea of a universal, while sense-impression particularises it. There is a contrast between the parts played by the meaning and the word. It is of the essence of language, including the poetic, to go beyond the realities of perception and of science, by going beyond it modifies, and even denies, them.

A word expresses a meaning, or implies it. The expressed sense is the primary denotation of words in respect of the objects.[2] The *śakyatva* or the nature of the denotation is said to belong to the universal, since the particulars being many there is prolixity.[3] A word like the cow, which is universal as this view, can manifest the particular because the universal is cognised by the same cognition as the particular.[4] The particulars are infinite; if the significance of a word is infinite and if it is known before it can be used, no word can be used safely and conveniently. To avoid this trouble we have to treat the words as universals and this characteristic feature makes the significance of the multiple, particulars centre round a word. As such does Śankara observe that the word is related to the universal and not to a particular.[5] But since language, as communicative, has to employ words with reference to the particular objects, these particulars are given in the same cognition as the universal, the latter expressing the primary meaning.

Otherwise the primary denotation of a word like *cow* is to be sought in the existence of the particular object. This will be an object of existence, not an object of thought ; for the universal alone is an object of thought. Since the particulars are many, we take them to exist and think of them in terms of a universal. Hence the denotative power lies in the universal from which there follows the knowledge of the particulars. The *śakti* or denotative capacity of the word is particular in so far as it refers to existence and it is universal inasmuch as it involves knowledge or thought.[6] A similar position is accepted in the Nyaya system, where a word means or denotes the universal, the configuration, and the particular, and where the *śakti* of a word functions in terms of existence. Thus the particular is denoted as qualified by the universal, and this relation of qualification between the two is within the province of *Śakti*, but not of Śakti as involving thought. The denotative power, therefore, refers to the existence of particulars and thought of the universal. But the content of this denotative as cognised, which alone reveals the primary meaning or *vāc* makes the universal alone the primary meaning.[1]

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[1] *Pathway to Reality*, I, 105.

[2] "Tatra śaktir nāma padānām artheṣu mukhyā vṛttiḥ" (*Vedāntaparibhāṣā*, p. 265).

[3] "Tac ca jāter eva, na vyakteḥ. vyaktīnām ānantyena gurutvāt" (*Ibid.*, p. 269).

[4] 'Katham tarhi gavādi padād vyakti bhānam? iti cet, jāter vyakti samāna samvit samvedyataya iti brūmaḥ" (*Ibid*).

[5] On *Vedānta Sūtra*, 1. 3. 28 : "Ākṛtibhiśca śabdānām sambandho, na vyaktibhiḥ."

[6] "Yad vā gavādi padānām vyaktau śaktiḥ svarūpasatī, na tu jnātā ; jātau tu sā jnātā hetuḥ. Na tu vyakty amśe śakti jnānam api kāraṇam, gauravāt ; jāti śaktimattva jnāne sati vyakti śaktijnānam vinā vyaktidhī vilambābhāvācca" (*Ibid.*)., pp. 270-71).

Another possible explanation would be that the cognition of particular arises through *Lakṣaṇā*. It is secondary. Thus in expression, 'The pot is blue', the word *blue* indirectly comes to m the quality *blue*. Likewise, if there is a word expressive of universal, we derive through the secondary meaning that the word refers to the particular as qualified by the universal.[2] But a recourse to a secondary meaning is inadmissible, if this meaning is totally unconnected with the primary one. In other words, we can have the meaning indirectly, but this one too must represent an essential facet of the content which will be no other than the articulation of the universal. Hence, we have the maxim "Ananya labhyaḥ śabdārthaḥ"—the meaning of the word is not otherwise obtained than by śakti or lakṣaṇā. And whatever these signify that becomes the meaning of the word.

And the word being essential to poetry, the content manifested assumes a sensuous and pictorial form. It is this form that yields the rich suggestions and imagery which constitute the medium for the revelation of the universal. Our experience are concerned mostly with finite things, and the language we use is, as Tennyson says, 'matter-moulded'. It is shaped to express these things. And when we transfer this language to the higher spheres, we use the same words; but the words here become unconscious metaphors groping after Reality. Words are finite entities, and, therefore essentially limited and defective. They reveal, like all finite entities, grades or degrees of perfection in their nature and value, whence we cannot suppress or ignore any aspect of the significance of the words. That a word should signify a particular is a pragmatic necessity, but logical necessity secures precision and accuracy in treating the word as a sal. And only when the word signifies the universal can we an identical meaning for the same word; as such the word be- a symbol only with reference to the universal. This symbolic is embedded in the nature of the object. This nature has spects, one is fundamental and the other accessory. The for- is the universal element.[1]

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[1] Ata eva nyāya mate 'pi anvaye śaktiḥ svarūpasatīti siddhāntiḥ. Jnāyamāna śakti viṣayatvam eva vācyatvam iti jātir eva vācyā" (*Ibid.*, p. 271).

[2] Atha vā vyakter lakṣaṇayāvagamaḥ. Yathā 'nīlo ghaṭaḥ' ity atra nīla śabdasya nīlaguṇa viśiste laksaṇā; Tathā jāti vācakasya tad viśiṣṭe lakṣaṇā (*Ibid.*, pp. 271-72).

The word denotes a universal, whence it refers to Reality or xistence. Pott observed that "the genealogies of words are the genealogies of concepts"; and these concepts are the universals presupposed in all experience. A single particular word devoid of any reference to the universal fails to comprehend the objects of a class or a group [2] and if it is devoid of any reference to a particular it will fail in its purpose.[3] For, the universal is always embodied in the form or the medium of its constituent particulars.[4] The universal and the particular are not mutually exclusive, since they do coexist as in the case of a compound. And a word therefore denotes the particular by denoting the universal. This is the rationale for the rich suggestions and implications of a word. Great poetry is highly suggestive precisely because the universal which is denoted by a word is bound up in a sensuous artistic form.

(*Concluded*)

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[1] Mammaṭa : *Sabdavyāpāravicāra*, p.i. : Iha yady api pravṛtti nivṛtti visayo vyaktir eva, tathāpy ānantyād vyabhicārāc ca tatra saṁketaḥ kartum na pāryata iti gauḥ śuklaś calo ḍitha ity ādīnām ekārthatvam mā prasākṣid iti ca śabdānām upādhāv eva sanketaḥ."

[2] *Kāvyaprakāśa*, "Yady apy artha kriyā kāritayā pravṛttinivṛtti yogyavyaktireva. tathāpy ānantyād vyabhiçārāc ca tatra saṁketaḥ kartum na yujyate."

[3] *Śabdaśaktiprakāśikā*, 19 : "Jāti mātre hi sanketādvyakterbhānam suduṣkaram."

[4] *Mahābhāsya*, 4.1.63 : "Ākṛti grahaṇā jātiḥ."

CHANDRA SHEKHAR AZAD: PATRIAR OF THE LIBERATION ARMY IN INDI

VAMAN H. PANDIT

Stories of martyrs to read shall always excite the young i developing the rare qualities reviviscent for the nation to retain the hard-won freedom. Among the revolutionary chiefs that came from different provinces to join the Hindustan Socialist Republican Organization none was more befitted than the bravest and stalwart fighter Shri Chandra Shekhar Azad. Brought up in the *adivasi* area of the then Alirajpur State, in a hamlet of Bhavra, now in the Jhabua district of Madhya Pradesh, he got the natural training of hardy and rough life along with his Bhil chums, who inhabited the wild country. From his Bhil friends, early in life, he learnt wrestling and swimming. He became more skilled with the bow and arrow than many men. He learnt to throw javalin, to shoot straight to ride and to use the sword, at all of which he became proficient.

We have read often of the brave deeds performed by princes and warriors in many a song or tale but here I am going to tell you a story of a man quite different from these. Authentic tales of these men are yet to be written, I mean, the saga of Indian Revolution.

The dazzling deeds of these men go unsung, unhonoured and unwept. I am not giving any shadow recollections in narrating the story; I am stating historical truths for it is the slave of the fact. Let the younger generation learn something of the story of heroic achievements or adventure in order to keep the spark of life alight in the Nation from the pioneers of the Liberation Army in India, who brought Liberty nearer by a century.

The hamlet of Bhavra, where our hero was born, has become a place of pilgrimage. Here Chandra Shekhar lived with his parents. His father Shri Sitaram was a well-known pious man—a man of considerable influence in the surrounding towns.

Devi Jagrani, that was the name of his mother was very anxious about her son for he proved to be very naughty although she admired and encouraged the childishly self-willed habits of the boy. A regular headache was he to his parents, as is often the case with the brave heroes. Many are the stories told in regard to his childhood when he displayed dawning qualities of the man he would like to be.

Devi Jagrani loved her son like anything and as the custom is in this tribal area, she gave young Shekhar a bit of tiger's meat to eat so that the boy might inherit feline qualities. These tribal people believed, and they still believe, that when a bit of tiger's meat is given to eat to the young child he becomes *Bahadur*. Whatever be the tradition, at least it goes without saying that in later life he showed extraordinary feats of valour and courage.

A near relative of the family, probably Shekhar's uncle was then living in Banaras, so his father decided to send him there for his education. He returned home after a few months and he was admitted in the local school at Alirajpur.

Again his father sent him to Banaras for the boy exhibited a strange waywardness. This time he remained there and studied properly. His stay at Banaras had a satutary effect upon his life for he came in contact with many young men. The atmosphere was such that he got the opportunity of studying many things especially the unhappy events which were then happening in the country. From the very outset he had a deep aversion for study which was of no use —which simply turned out quill-drivers for the use of British regime in India. On the whole he was an average student. Bit by bit, his mind was being drawn in the whirling motion of the serious political situation prevailing then in the country. Unpleasantly during this time there took place *Jallianwala Bagh Tragedy* and the subsequent movements. All these events had a profound effect on the young mind of Chandra Shekhar which was wax to receive and marble to retain.

Earliest incident of his career which we know of is in connexion with the black-flag demonstration and boycott against the visit of 'Prince of Wales' in India. He joined the protest party of citizens of Banaras and carried black-flag in the forefront. He was bound to be arrested and so it did happen. He was brought in the court. The Magistrate asked him, "What is your name? What is your father's name? Where do you live?" He replied to all these three questions respectively, "My name is Azad. My father's name is Independence and my usual residence is Jail." Astonished was the Magistrate at these straight and bold answers. He was sentenced to fifteen canes. He was beaten very severely. At every beat his body turned blue and red and blood oozed out freely. Scratchings of this sentence were sentimentally preserved by this sentinel of Liberty like a sign of the cross. Highly Azad was honoured by the citizens and profusely garlanded when out came he from the Jail. His photos appeared in the Press with silver head-lines.

After this incidence Shri Provesh, the chief organiser of the Revolutionary Party in India, sought him and persuaded Azad to join it. Here presented the natural outlet for his patriotic career. Now the Party became stronger. Azad proved to be a restless worker. He issued secretly and silently many leaflets and bulletins to drive away the misconceptions entertained by the people of the country. He proved a master propagandist like Dr. Goebels. In physical strength none equalled to him and he was called *Bhim Dada.* Other eminent members of the party working along with Azad were Shri Yogesh Chatterji, Shri Sachin Sanyal and Rabindranath Kar.

There were two kinds of memberships for the Party, one of active workers and other of sympathisers or helpers, the latter always helped with money and material. These men consolidated the Party on very sound lines. There were very strict rules, one being the vow of celibacy and non-attachment to home.

Men in the Party learned all the arts of modern warfare, not only they manufactured bombs and pistols or revolvers most efficiently but also utilised these weapons like trained soldiers to the utmost capacity. How they could do it ! It is a secret protected by the great Time. It is no easy matter to bring the historical truth to light for the men who did this have passed away.

Finances ! From where the money could be had? This was a major problem before the Party. To ask openly was impossible and to get it secretly was much more difficult task for the people had to be satisfied about the *bona fides.* Leaders of the Party toured extensively in the land and collected lot of money but it proved inadequate for the purposes of the contemplated actions. The leaders of the Party sought the help of Azad. A secret commission was called and it decided in favour of dacoity of Government treasure. Verily it was a verdict and the men in the Party started preparations for committing it somewhere.

Investigations followed and a bold plan was executed so well known as *Kakori Case.* This is a railway station near Lucknow in Uttar Pradesh. As per instructions of the leader of the Party, the members entrained on August 9, 1925 and pulled the alarm chain. The train came to a standstill. The chiefs of the Party who were sitting in various compartments got down. The boxes containing the treasure were thrown down. At the point of pistol all were asked to keep quiet, even the guard of the train. Having taken all precautions the leaders made good their escape with the booty. Need I state here the names of the chiefs and sardars who took part in this bold enterprise.

After this event, the Government let loose a hell of repression and arrests in the country. Many a chief of the Party was arrested. After deliberations of 18 months the court awarded punishments. Four of the chiefs were hanged and others were sentenced to long-term imprisonments. Sad was the outcome of all this affair for the Party lost its best and powerful men in the scramble. Azad, anyhow disguised as a *Sadhu,* came to Jhansi and from there *via* Khandwa came to Indore. For a few days he went to his birth-place Alirajpur but did not stay there longer. Again he came back to Indore and after staying here in disguise for some time, he left for somewhere. This was the worst period in his life for he had to suffer many hardships. The sun scorched him by day and the cold chilled him by night. He was often at a loss to obtain food for himself. Taking a circuitous route, he travelled the trackless jungle of the Vindhya valleys on foot, he reached at last Kanpur—the headquarters of the Party.

Anew Azad had to reorganise the Hindustan Socialist Republic an Army. This was the first task. The vacuum had to be filled in with capable chiefs. At this time, he came in contact with the ablest and devoted men who wanted to overthrow the British Government by armed revolution. Incidentally he met at Kanpur Shri Bhagat Singh, Shri Rajguru and Shri Batukeshar Dutta. The henchmen of the British Government were on the track of Azad. When a secret conference was being held between these men in a private lodging, the police all of a sudden rushed to the scene. A regular scuffle issued and a Party chief named Shri Shukla met the assault singlehanded and was killed on the spot. Others, however, very skilfully escaped. Azad had in mind to teach a lesson-to the intruders and on this particular occasion he felt an overwhelming temptation to shoot but was held back.

A convocation of all the leading chiefs was held in Delhi in September, 1928 near the old fort. Chiefs from all over India took a serious review of the political situation in the country and decided a course of action "one for one" as it was then called in the terminology of the Organization. Then all of them departed to their respective provinces. It is rather difficult to know that the resolutions were of the Party at this Delhi meeting.

Hardly the chiefs could get time to arrange their house in order than a serious situation arose in the country. Lala Lajpatrai, the Lion of Punjab, lead a strong protest against the Simon Commission in Lahore. The police with inhuman brutality charged the leaders with *lathis*. Lalaji was struck it proved a fatal blow and later he succumbed to his injuries. While dying he said, "the blows I got are but the death knells of the British Empire in India."

No sooner Azad heard of this dastardly crime than he was turned black with rage. He rushed to Lahore and conferred there with his friends. A terrible action to revenge the insult was planned. It seemed to Azad that even his life would be a small price to pay for this action. Selecting a few of his trusted followers he explained to them the plan of his action and gave necessary instructions. It was decided to do away with Sanders.

As previously arranged this operation was directed by Shri Chandra Shekhar Azad, Shri Rajguru, Shri Bhagat Singh and Jaigopal. All these chiefs remained in hiding behind the Police Office in Lahore. As soon as Scott and Sanders came out a volley of bullets wallowed them. Sanders was killed and Scott saved himself. Thus Lalaji's death was avenged. Steadily and slowly all these chiefs got through undetected.

While describing the narrative of this hero I have come so near the events which are quite fresh within the living memory of the Indians.

Vigilant Police of the Birtish rule in India was on the track of Azad. They were bewildered. They were tired. All attempts to get him round proved fruitless.

At long last, on February 23, 1931, while he was sitting and loitering in the Alfred Park, any how the police got the clue, and a successful net was drawn around—a regular squadron of armed Police surrounded him. The Superintendent asked him, 'Hands up'. A shot from his pistol answered the question. Now both sides exchanged shots freely. In the end when Azad realised that it was useless to fight singlehanded and he was running short of his ammunition and the enemy outnumbered him, he calmly shot himself down. Azad became *Azad* forever. He lived up to his name till the last breath. The police took the soul-less body in custody.

Thus the gallant chief fell at last so that India might live. How true it is, "And how can man die better than facing fearful odds, for the ashes of his fathers and the temples of his Gods?" Who stands if freedom falls? Long Live Azad.

WILLIAM BOYCE AND THE INDIAN TELEGRAPH

1805—1817

P. C. Roy, M.A.

(Indian Archives, New Delhi)

The word *Telegraph* is now used in the sense of 'Electric Telegraphy'. In former times, however, it stood for the method of signalling messages by means of a semaphore. Sri Krishnalal Shirdharani, the teller of the 'Story of Indian Telegraph' on the occasion of the Centenary celebration of the Indian Telegraph in September, 1953, makes a very cryptic reference to this early system :[1]

"Communication only slightly faster than post was by means of semaphore signalling and that too between few places. Pillars 18 feet square and 30 feet high were constructed at 20-mile intervals and the signals by means of a rotating triangle were read by telescopes. This 'telegraph' was working between Calcutta and Chunar on one side and Calcutta and Sauger on the other. No public messages were carried over this 'telegraph', which was started in 1813 and continued off and on till the 'Electric Telegraphs'[2] were introduced".

The *Imperial Gazetteer of India* is equally brief and uncommunicative on this old method of communication :[3]

"Early in the 19th century (1820-1830) the proposal was seriously entertained by the Indian Government to construct a series of towers for semaphore signalling, 100 feet high and at intervals of eight miles, all the way from Calcutta to Bombay. The scheme never went very far, though some of the towers then built may be seen to this day in the Hooghly district".

Here again, the records yield information of inestimable value in unfolding a phase in the life-story of the oldest government-owned public utility in India. It began with Mr. William Boyce, who worked for some years under Mr. Edgeworth in the management of telegraphs in Ireland. As early as 1805 he suggested to the Government of Bombay a plan, first of its kind in India, for the establishment of a telegraphic communication from Bombay to Mādras. Though Mr. Duncan, the then Governor of Bombay, did not accede to the proposal, Mr. Boyce was firm in his resolve to prove the soundness of his contention. With this end in view he made telegraphic studies the chief occupation of his leisure hours during the next eight years. Fortified by the result of his investigations he submitted on December 6, 1813, an improved plan for the consideration of the Governor in Council through the Chief Secretary to the Government of Bombay. It was again a plan for the establishment of a telegraphic communication across the Peninsula from Bombay to Calcutta. Seventy-five towers, each being of 18 feet square by 30 feet in height, were to be erected at a regular distance of 20 miles and made to serve as stations for transmitting signals. The towers would bid defiance to the severest hurricane and messages would be sent with the aid of a simple index by a man sitting inside. The principles in language were precisely those adopted by Mr. Edgeworth in Ireland, being expressed by numerical Indices but different in symbol, Boyce's being a ball, Edgeworth's an Isosceles Triangle. The number of symbols in the Boyce method was only four. But with the aid of a vocabulary, very successfully compiled by Mr. Boyce, they were sufficient for all telegraphic communications. The machinery, equally simple, was a mast supporting a yard, 30 feet long, from which four balls (the symbols by which all the combinations were expressed) were suspended by means of ropes and pulleys.

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[1] Krishnanlal Shridharani, *Story of Indian Telegraph*, pp. 1-2.

[2] The first experimental electric telegraph lines were constructed in India in 1839. The exprimental stage came to an end in 1853, when large-scale construction began. The electric telegraph was thrown open to public traffic in 1855.

[3] *The Imperial Gazetteer of India*, Vol. III, p. 437.

The tower, in the opinion of Mr. Boyce, would be found[1] "sufficient for every purpose required of it, *viz.*, convenient quarters for the men at the station, a place of defence against the Pindaries or other plunderers or annoyance, as well as a secure screen for the Telegraph against all weathers". The cost of erecting the towers would be only in the neighbourhood of two thousand rupees. To this would be added three hundred rupees more to purchase the machinery and two telescopes. On the basis of this calculation one lac and seventy thousand and five hundred rupees or thereabouts would complete a line from Bombay to Calcutta. Mr. Boyce also pointed out that the climate of India was peculiarly suitable for telegraphic operation. In England fogs and humidity of the atmosphere made the telegraph almost, if not wholly, ineffective throughout the greater part of the year, whereas in India, the clearness of the atmosphere would enable the operator to work with telescope to its maximum advantage.

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[1] *N. A. I. Pol. Cons.* 4 March, 1814, No. 10.

The principal characteristics of his telegraphic system, Mr. Boyce claimed, were expedition, secrecy, simplicity and accuracy, added with lightness of expense. Thus he had conquered difficulties in the system which were generally regarded both in England and on the continent of Europe as insurmountable. To prove the superiority of his own he made a reference to the telegraphic system, as obtaining in Europe at the time. He narrated how Monsieur Chappe suggested in 1793 to the Committee of Public Safety a mode of telegraphic communication which came into being throughout the French Dominions. The next, invented by Lord George Murray at about the same time, was established along the coasts of England. In 1796 Mr. Edgeworth proposed a plan to the Government of England for the erection of a chain of telegraph round the coasts of Ireland. It was only in 1803 when Napolean threatened the country with invasions that he was employed to establish a line of communication from the eastern to the western extremes of Ireland. After completing the line of communication Mr. Edgeworth handed it over to the British Government. But he refused to accept any remuneration for his services except a valuable telescope which was given to him by the Duke of York as a token of his admiration for the splendid work done.

Thus Mr. Boyce, who had his early schooling under Edgeworth as first assistant in the successful project, did his best to convince the Government of Bombay of the need to establish a telegraphic communication for the first time in India through adoption of an improved plan, which he evolved. In India the seats of Government were at considerable distances from one another. So were the Presidencies and garrison towns. The roads and routes were perilous and little known so that a quick method of carrying information was the crying need of the hour. The new system of communication, if adopted, would be of immense advantage to the Government from a naval, Military and commercial point of view. The vision of a great change to follow in the wake of this venture urged Mr. Boyce to write :[1]

" . . . . It will be for Government to judge what facilities it would afford to the Admiral on the Indian station in ordinary convoys and in all other Naval operations, and the advantages which would result to the commercial interests of the Hon'ble Company in conveying intelligence to their shipping at the other side of India of all communications received by land or sea, of the rise and fall of all articles of Indian produce, in England and all over the continent of Europe''.

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[1] *N. A. I, Pol. Cons.*, 4 March, 1814, No. 10.

He knew that the question of expenditure on the proposed undertaking would loom large before the government in spite of the advantages they would derive from it. So he assured the government that this work of public utility could be made to pay its own cost and at the same time bring considerable revenue to the state coffer by allowing the public, the private merchants specially, to participate in its advantages.

This time the Government of Bombay took a larger measure of interest in this matter and forwarded a copy of the letter from Mr. Boyce for the consideration of the Supreme Government because then, as now, communication was regarded as a subject of special care for the Government at the centre. The Governor-General-in-Council studied the plan with care, decided to give it a fair trial and admired the spirit of public service which actuated the author to devote his time and energy to a subject of such national importance. The Government of India, however, proceeded with caution. Enquiries were made regarding[1] "the nature of the country through which it may be proposed to carry the line of communication, the number of posts which with reference to local conditions might be required, the expense attending the construction of those posts on a calculation of that number and various other points''. Concern was shown for the proposed telegraphic towers, in the event of their being constructed, as they would be exposed to the attack of the Pindaries. If the newly evolved communication system were good for the suppression of unruly elements by transmitting early communication of their proceedings, it was equally true that the telegraphic towers would be the first objects of attack by the freebooters. Of course, this could not be an argument for the rejection of the plan, which was also sent to Colonol Crawford, the Surveyor General, for further examination. Ultimately the Government of India decided to make an experiment on a limited scale by the construction of temporary telegraphic stations between Fort William and Barrackpur. Major Henry Faithful of the Artillery Regiment and Captain Young, Agent for Gun carriages, were asked to assist Mr. Boyce in the conduct of experiment, supply of workmen and materials for the erection of temporary stations at public expense and selection of men for the management of the signal. On January 20, 1817 the experiment on Boyce telegraph was performed successfully in the presence of the Earl of Moira, the Governor General of India, who was very much impressed by the simplicity in the materials used, the ingenuity in the compilation of the vocabulary and the perfection to which the system had been brought, combining as it did, "such powers of general application with such simplicity in the mode of use as can hardly be conceived capable of being surpassed".[1]

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[1] *N. A. I. Pol. Cons.* 4 March, 1814, No. 11,

Major Henry Faithful, acting Superintendent of Telegraph Experiments, in his report on the feasibility of the Boyce Telegraph in India dated the 30th January, 1817 testified to the success of the experiment made on the 20th January, "on which day the communications, ordered to be telegraphed at Calcutta, were forwarded with accuracy and despatch, through Dukinsore to Barrackpur (a line of 14 or 15 miles) whence answers were returned with equal effect".[2] He drew pointed attention to the vocabulary, compiled so ably by Mr. Boyce. He felt that "this Task could not have been accomplished but by long reflection, great assiduity and by considerable skill in arrangement and classification".[3]

Strange to narrate, only a day after the successful experiment Mr. Boyce informed Major Faithful of his inability to help or watch further prosecution of his pet project. The urgent call of his private affairs, the early approach of south-west monsoon possibly coupled with the deterioration in health as a result of the mental and physical labour he had to undergo under the burning rays of the sun forced him to leave Calcutta when his hopes of seeing his plans finally established were, to all appearances, on the eve of fruition. His disappointment was naturally very keen as he left with considerable anxiety regarding the final success and adoption of his telegraphic method, to which he dedicated a portion of his life. Yet he did not ask for, least did he expect, any reward for his time spent and labour undergone until his plans were finally accepted for adoption by the government. The administration of the time, however, was not unresponsive to this selfless devotion to a cause, calculated to promote public welfare in India. The Governor General in Council resolved to present Mr. Boyce with a donation of one thousand pounds or sicca rupees 3000. The note of appreciation, just and generous, flew profusely:

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[1] *N. A. I. Pol. Cons.*, 26 April, 1817, No. 61.

[2] *N. A. I. Pol. Cons.*, 26 April, 1817, No. 58.

[3] *Ibid.*

> ". . . . . . The Governor-General-in-Council can have no hesitation in declaring his opinion that whatever may be the ultimate result of the experiment, Mr. Boyce is entitled to a liberal remuneration for the actual dedication of his time, talent and personal exertion to the service of Government in arranging the vocabulary, erecting the signal posts and instructing persons to work the telegraph. Whatever reward, therefore, the Hon'ble Court of Directors may in its liberality think fit to confer Mr. Boyce in the event of its reaping the full benefit of his useful and ingenious plan by the establishment throughout India of such system of Telegraphic communication as shall realize the hopes entertained by the project, His Lordship in Council conceived it to be incumbent on the local government not to suffer in actual services in bringing it to a state of forwardness by which it can be reduced to the test experiment on an enlarged scale to pass unrequited".[1]

The exit of Mr. Boyce did not mean the end of the telegraphic system, which he called into being. It only marked the beginning of a period of activity by a Telegraphic Committee for which a provision was made in the resolution of the government of April 26, 1817. In fact, the Boyce Telegraph idea remained active and operative for official purposes till a better method of communication—the electric telegraph—was introduced. Yielding to the relentless pressure of the selective processes of nature Boyce Telegraph had then to go. With its passing away the dust of obscurity settled down on the name and fame of Mr. William Boyce.

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[1] *N. A. I. Pol. Cons.*, 26 April, 1817, No. 61.

THE QUEEN'S ENGLISH IN MAURITIUS

B. Bissoondayal M.A.

Mauritius, the tiny island lying off the south-east coast of Africa, is a British colony that has not let its love of the French tongue die. The French *patois* Creole is for all practical purposes the language of the land. It is understood and spoken by Indians, coloureds, Chinese, French and Britishers alike. It is the constant reminder of the French occupation of the island that lasted from 1715 to 1810.

French is used in some of the law courts. It was, up till 1847, the language that the judges of the Supreme Court too were allowed to hear from their bench. It is still used by some members of the Legislative Council. The governor has a smattering of French. A patient talking to his family doctor is sure to make himself better understood if he eschews English in favour of French. A French-speaking trader attracts many more customers than an English-speaking one. Deeds are invariably drawn up in French by the notary public.

When the British captured the island, English had a good start. For four decades or so the dailies appeared partly in English.

In an effort to acquaint Mauritians with some common words of the English language, Britishers began to give some streets of Port Louis, the capital, Indian names. Thus the word *street* was appended to *Patna, Goa, Calicut, Mahratta, Vellore, Benares*, etc. They are all in the region to which Indian immigrants were relegated. Those were the gloomy days when members of one race would not be allowed to mingle with those of another. The immigrants had even their own doctor whose name was Maleapa Sinnapoullay.

The scheme worked well. Our rulers went a step further when they set about combining French words with English ones. It is then that the hybrid *La Reine Street* was produced. That was more than the Mauritians could bear. The whole name could have been Englished. Some Britishers too were of this opinion. It is from their ranks that arose someone who made a new experiment and lo ! a name pleasing to the ear like *Allée des Lavandières* was converted into the prosaic *Washerwomen's Row* !

It must be admitted that, in spite of such lapses, English was being slowly introduced. Then came a change for the worse. It was decreed that July 14th, 1847 would be the last day on which French was to be used in the Supreme Court. The whole country rocked with indignation. The papers reacted with vehemence to the unfriendly gesture. English was at once boycotted.

Nobody has been so far successful in defending the British rulers who, of all dates, let their choice fall on July 14th. Ever since the French Revolution, that date had been set aside here as a memorable one. The Whites were mortified.

Lady Gomm, the resourceful wife of the then Governor, tried to make amends. She resolved to give a fancy-dress ball at Government House before the year was out. Although the ball was a success, the Whites would not forget that their mother tongue had been brutally ousted. They would not be placated. What had been given to them by way of atonement was cold comfort.

The people of the little island will, for all ages to come, be, however, grateful to the lady who came forward as a helpmate to her erring husband. A good result flowed from the fancy-dress ball or rather from an incident connected with it.

Lady Gomm was in a hurry as the year 1847 was nearing its end. She franked her invitations with stamps that, through an error of the engraver, bore the words 'Post Office' in lieu of 'Post Paid'. The famous 'Post Office' stamps were born. As it is well known throughout the world, they fetched much money. Mauritius at once became far-famed. Retelling the story of these stamps on the occasion of their centenary, Michael Harrison wrote : "Of the thousand that Mr. Barnard (the engraver) eventually struck off twenty-six copies are known to exist to-day : fourteen of the 1*d* and twelve of the 2*d* value : three copies have been, by accident destroyed. The value of these twenty-six stamps is not less, at present values, than £40,000, and it may well be in excess of this figure."[1] Nor was Michael Harrison guilty of exaggeration. Philatelists must have had a pleasant surprise when they came to know that, on March 25th, this year, an unused *1847 Mauritius 'Post Office'* Penny stamp was sold at the record price of £4,500 at a stamp auction in London.

The simple truth that innovations are popular only when they are introduced without giving the smallest offence to tradition, did not cross Sir William Gomm's mind.

The error was all the more regrettable as English had been started on its interesting career. A legendary romance had been published under the romantic title *The Tenants of the Wild.* Critics were agreed that it had been carefully written. *The Mauritius Times* had articles written in English, which could be placed by the side of the French ones. On 28.10.1848 it wrote :—

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[1] *'Post Office' Mauritius, 1847* (Stamp Collecting, Ltd., London, 7*s*. 6*d*.)

"We know that if this Committee fulfils its task and is well supported by the public, it will soon obtain an Elective Assembly, Municipalities, Reduction of the Budget, the Government of the Colony, and ameliorations indispensable to prevent its ruin. . . . . "

The Mauritius Times did not stand high in the favour of exacting critics who would not forgive it the temerity it had to refuse to boycott English forthwith. But their view, dominant as it was then, is not shared today. One is rather inclined to hold the opposite view. The simple English, the clarity and the rare gift of presenting the picture of a country in a sentence or two, cannot but earn our admiration even after a lapse of a hundred years and more.

For some time past we have been reading a paper that goes by the same name. While praising it for the strenuous efforts it is putting forth to resurrect English, we have yet to be convinced that it compares favourably with its now defunct namesake. Hence the nostalgia for 'the good old days'. After reading the following it will not be difficult to say if progress has or has not been achieved after so long a span as a century in a country that has a history extending over a relatively short period of three centuries :—

" (a) Is it not possible to postpone the departure (of Mr. X) ? If not, is it not advisable to summon Mr. X to the Legislative Council to explain that he is not leaving everything in a mess ?

(b) The fear of defeat should not hold back any political party from contesting elections. Any negative attitude cannot but act as a stumbling block" (*The Mauritius Times*, 30th November, 1956).

The average Mauritian does not take the trouble to analyse the sentences he reads or hears. He is wont to overhear his next door neighbour welcoming a friend by requesting the latter to 'get in'! Muddle-headed editors are in part responsible for this state of things. In an official periodical, published in wartime, Florian was mistaken for La Fontaine, of all French authors. Even those who are expected to be familiar with French literature, lack precision.

Writing in 1857, Rev. Patrick Beaton asked pertinently: "Is it possible that the English language is unknown to all save Englishmen, in a colony which has been in the possession of England since 1810 ?"[1]

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[1] *Five Years in Mauritius.* James Nisbet and Co., 1858.

The question remains. Judging from the fare that we are being served, we cannot but infer that, as far as the English language goes, the state of affairs is more or less the same.

Rev. Beaton had the pleasure to hear that at least one judge of the Supreme Court did speak English flawlessly. Our reference is to the late S.V. Surtees on whom was conferred, in 1842, the D.C.L. degree of the Oxford University.

Nowadays, some of the leading members of the bar do not show great concern for grammar and syntax, common sense and logic. One of them was anxious to tell his admiring countrymen that their fatherland was not marking time when, carried away by his eloquence, he said:

"On behalf of the Celebration Committee I thank you from the deepest core of my heart for this glorious manifestation which adds another laurel to the pages of our history."

A host of orators imitated him. One of the imitators chastised some irredeemable obscurantists whose sweetness was confined to their speech, when these words fell from his lips:—

"Truly it is a delightful arrangement for the minority to rule over the majority, no matter how much music you play about it, no matter how much sugar is put in the pill, but I maintain. . . . ."

A burst of laughter rose from the august assembly that was being addressed. What was astounding was that the undaunted orator was far from realising that he had been twisting the anatomy of English prose!

As one can see, there is much confusion in the mind of orators who think in Creole and choose English as a medium of expression.

They who were out to oust French from the principal law court ended in ousting English instead not only from law courts but also from the press. One morning, an accused was heard saying: "Find it out for yours elf!" Neither the court nor the press could make out why so many words had been put to use. When the papers appeared, *out* and *for* had been suppressed. To teach the accused that to be verbose is no virtue, he had been made to say: "Find it yourself!"

The sober fact, however, is that although there is still a long way to go, there is no cause for despair. Ours is the age of transition. From now on, it is English that will take the lead. *The Mauritius Dramatic Club* is doing its bit. The country is now receiving British periodicals in great numbers. *Everybody's* is in every home. *A History of the English-Speaking Peoples*, published serially in it, is read by one and all. Churchill's other works were known to only a few.

The progress achieved is of no mean importance if one remembers that, in the last century, the reading interests of Mauritians, as Mark Twain—who was here for a few days—observed, did not go beyond the Bible and *Paul and Virginia*, a novel that has French Mauritius or, to be exact, Isle de France for its theme. Happily for us, those times are dead and gone. When Mark Twain paid us a visit the outside world did not condescend to take notice of us. Was it odd, then, if we paid it back in its own coin? Queen Victoria believed in all seriousness that Mauritius was somewhere in the West Indies! H.R.H. Princess Margaret knows Mauritius much better. When she was greeted by 50,000 Mauritians in September, 1956, she was sure that she was far away from the West Indies. The press in almost all the countries of the world gave an account of the Royal Visit. Many a reader came to know that an island lost in the Indian Ocean is today the home of 375,000 Indo-Mauritians, 155,000 coloureds, 10,000 Whites and 20,000 Chinese. Although Mauritians were not shown to advantage,[1] it came to be known that their fatherland is the meeting-place of East and West.

For some decades after Mark Twain's departure, English did not budge an inch. Every grammar school was pompously styled *college*. Collegiates spoke and wrote seventeenth century English which they got from the text-books prescribed then.

But what does the future hold in store for the Queen's English? There are signs that the second half of the twentieth century contrasts with the corresponding part of the nineteenth. The people are taking to the study of English of their own accord. They will not brook interference. One Edward Newton who was Colonial Secretary after Sir William Gomm's departure, was out to anglicize Mauritius. There can be little surprise that his move resulted in failure. History repeated itself. Then came Governor Arthur Hamilton Gordon. The son of a British Prime Minister, Gordon had charming manners. He has gone down in history as the first governor who started speaking French. It is not a legacy of ill-will that the good governor has left us. He was a first-rate writer. His memoirs [1] make interesting and instructive reading.

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[1] As the Princess was about to step from a launch at Port-Louis a group of 5,000 excited islanders broke down half-inch steel barrier rails and battled with the police who used batons to restore order....

French estate owners, Indian coolies, Chinese traders and British officials rubbed shoulders in the 50,000 crowd.—*The Empire News and Sunday Chronicle*, September 29, 1956.

Nowadays, our youths are reading British authors. What is more, they are reading some French authors in their English translation. They are devouring *Penguin* books. Weeklies and monthlies carrying articles in English command a wide circulation. When English was as it were taboo, Hindi had its chance and became popular in a trice. It now comes immediately after Creole and outstrips both French and English. It can now lift up its head and think in terms of progress. As many as four Hindi periodicals are printed in Port Louis. As a rule, the Hindi-speaking element prefers English to French despite the fact that Hindi grammar has much more in common with French than with English grammar. It seems that Hindi and English have a bright future. This does not mean that French will be ousted. It will not be a wise policy to further the cause of Hindi and English to the detriment of French. All attempts made to discard French that has come to stay, are bound to have nefarious results. Nothing prevents an Indo-Mauritian from acquiring efficiency in all the three languages he is supposed to be conversant with, *viz.*, Hindi or Hindustani, French and English. Nothing prevents a Mauritian who happens to be a non-Indian, from mastering both English and French. French has its *raison d'etre.* The Mauritian who wishes to think clearly cannot but prize French. If English continues to be in antangonism with French it is the former that will be the loser. Now that English is firmly set on the road to progress, let British officials be on their guard ! Sir William Gomm who passed away in 1875, had had ample time to see that because he was tactless and could not avoid too violent a break with tradition, a good opportunity had been thrown away.

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[1] *Mauritius : Records of Private and Public Life* (1871-74). Edinburgh, R. Clark. 1894. 2 vols.

MONOTHEISM AND THE RGVEDA

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The early seers of the Vedic hymns, being essentially of a poetic temperament, attributed divinity to all objects of Nature which filled their minds with delight, awe and wonder. Thus "to them Nature was a living presence with which they could hold communion. Some glorious aspects of Nature became the windows of heaven through which the divine looked down upon the godless earth. The moon and the stars, the sea and the sky, the dawn and the nightfall were regarded as divine This worship of Nature as such is the earliest from of Vedic religion." It is for this reason that the Ṛgvedic age is the age of many gods. Still a careful perusal of the hymns of the Ṛgveda proves that the Vedic Aryans of that age had also the conception of one Supreme Being. This spiritual monotheism gradually took the place of polytheistic anthropomorphism, for "monotheism", as S. Radhakrishnan says "is inevitable with any true conception of God. The supreme can be One. We cannot have two supreme and unlimited Beings."

In the Ṛgveda the gods adored are each considered as supreme. A particular god to whom prayers are addressed is raised to the most exalted position. Thus Indra is described as surpassing other gods in greatness (*cf.* **यो जात एव प्रथमो मनस्वान् देवो देवान् क्रतुना पर्यभूषत् ।** etc. ii.12.1). Varuṇa is praised as the supreme god, the god of gods and mortals watching over the world (*cf.* **त्वं विश्वेषां वरुणासि राजा । ये च देवा असुरा ये च मर्ताः ॥** ii. 27.10). The sun is his eye, the sky is his garment, the stars and the moon are in their course for fear of him. He upholds the moral and the physical world and he punishes the evil-doers. Other gods obey his order. He is Omniscient and as such knows everything of the world. The Sūrya is addressed as the life of all that moves and stands (*cf.* **सूर्य आत्मा जगतस्तस्थुषश्च ॥** i. 115. 1). The god Ṛta is the father of all, the heaven and the earth exist by the eternal law of Ṛta. The dawn and the sun follow his path. The whole universe is founded on Him and moves in Him. This idea of superiority of a particular god to the other gods is at the root of the conception of one Omnipotent and Omniscient Supreme Being.

With the march of time the religious outlook of the Vedic Aryans underwent modification. They could no longer be satisfied with the polytheistic anthropomorphism. A doubt arose in their minds as to who among these many gods deserves to be worshipped (*cf.* **कस्मै देवाय हविषा विधेम ॥** x. 121.1). They could no more believe that gods, like other created beings, are born. So they questioned : who has seen the first born when he that had no bones bore him that has bones (*cf.* **को ददर्श प्रथमं जायमानम्** etc.). They feel that a created god is no god at all, for that which is created is bound to be destroyed and that which is subject to creation and destruction cannot be the eternal ruling power governing the universe. Hence, the seers gradually abandoned the anthropomorphic ideas which give only 'substitutes for god but not the true living god'. By prolonged meditation they came to realise that "god is the inexhaustible light surrounding us on all sides. It is one, uniform, eternal, necessary, infinite and all-powerful. From it all flows out, to it all returns." This one, being itself impersonal, rules over all that is unmoving and that moves, that wakes and flies (*cf.* **प्रजापते न त्वदेतान्यन्यो विश्वा जातानि परि ता बभूव ।** etc. x. 121.10). The various gods are the different manifestations under different names of this one, all-pervading and underlying spirit which is active, intelligent and highly beneficient (*cf.* **एकं सद् विप्रा वहुधा वदन्ति अग्निं यमं मातरिश्वानम् आहुः ।** i. 164.46). The sun is nothing but this universal spirit (*cf.* **एकैव वा महान् आत्मा देवता सूर्यः**). The Agni is all the divinities (**सर्व्वा देवताः**). The Agni is One, though kindled in various ways : One is the Sun, pre-eminent over all, one Dawn illumines this all, one is that which has become this all (**एकं वै इदं वि बभूव सर्व्वम्**).

This conception of unity in diversity has been elaborated in the Devisūktam the deity of which is **परमात्मा** or the universal Soul and the Ṛṣi is Vák, the personified speech or word that proclaimed or manifested the supreme Being and was inseparable from Him, representing His might or function. 'This goddess Vák represented the Primordial Sakti from whom everything proceeds and who pervades everything and is conterminous with the Supreme Being Himself who is without beginning, or end and who is vaster than the universe. This Primordial Force manifests itself in various forms as Indra, Agni, Varuṇa, the Aśvins, the Maruts, Mitra, Bhaga, Pūṣan, Tvaṣṭṛ, Rudra, Sūrya, etc. and gives forms to all created worlds. Nothing exists or can exist without its help or support. These manifestations though diverse in character are really one in essence. All objects material or immaterial owe their origin to it." In the Puruṣa-sūktam the Puruṣa or the Giant Being has been identified with the entire universe, who divided Himself or has been divided into the component parts which constitute the universe—the sun, the moon, the earth, the plant, the animals and the four classes into which mankind is divided. In the Hiranyagarbhasūktam the deity is given all the attributes of supremacy. He is said to have arisen in the beginning, the one lord of all that exists, who upholds heaven and earth, who gives life and breath, whose command even gods obey, who is the god over all gods and the one animating principle of their being. Thus, "the whole hymn must have been" says Max Müller, "the expression of a yearning after One Supreme Deity who had made heaven and earth, the sea and all in them is." The Nāsadiya Sūktam directly speaks of the Supreme Being or the **परमात्मा** who is its deity (*cf* **वियदादिभावानां सृष्टिस्थितिप्रलयादीनां प्रतिपाद्यत्वात्तेषां कर्त्ता परमात्मा देवता"** – Sāyaṇa). It is said in this hymn that there was only one, the Primeval Being. Other than that one nothing else existed. That one which lay void and wrapped in nothingness became developed and manifested by the power of 'tapas'. This Supreme Being is All-seeing and Omniscient and He alone knows the great secret of creation (*cf* **इयं विसृष्टिः यत आवभूव यदि वा दधे यदि वा न। योऽस्य अध्यक्षः परमे व्योमन सोऽङ्ग वेद यदि वा न वेद॥** x. 129. 7). Thus "the Ṛgvedic bards realised the presence of this universal soul not only in the gods, but in men, animals, trees, mountains and all the natural phenomena."

Yāska in his Nirukta said that all the hymns of the Ṛgveda are in praise of only one deity, the Supreme Being or the Universal Soul "**महाभाग्याद्देवताया एक आत्मा वहुधा स्तूयते**". The various gods addressed in the hymns are in essence no other than the Absolute Being. (*cf.* **आत्मा एव एषां रथो भवति, आत्मा आयुधम्, आत्मा इषवः, आत्मा सर्व्वं देवस्य।** Daivata Kāṇḍa, Upodghāta 7.4 or **एकस्य आत्मनोऽन्ये देवाः प्रत्याङ्गानि भवन्ति,** —Daivata Kāṇḍa, Upodghāta 7.4). Because as the earthen pot and the lump of earth are the same thing, so the gods Agni, Indra, Sūrya, etc. are identical with the Supreme Being. The **अङ्ग** cannot be different from the **अङ्गी**. The Supreme Being is the **अङ्गी** and the gods Agni, Sūrya, etc. are His **अङ्ग**s. Hence the hymns in which the gods Indra, Sūrya etc. are addressed are really in praise of the Supreme Being. Durgācāryya commenting on Yāska's '**यज्ञसंयोगाद् राजा स्तुतिं लभते। राजसंयोगाद् युद्धोपकरणानि॥**' says that as weapons are praised on account of their connection with the king, as the king is honoured on account of his connection with sacrifice and as the sacrifice is praised on account of its connection with the gods, so the gods are worshipped only for their relation with the Supreme Being. The gods are His different manifestations, so the worship of the gods is the worship of the Supreme Being. In the 7th. Maṇḍala of the Ṛgveda there is a ṛk—**रूपं रूपं मघवा वोभवीति। माया कृण्वानस्तन्वं परिस्वाम्॥** which

THE TRAGIC VISION OF WILLIAM BUTLER YEATS

PROF. SUSHIL ROY, M.A.

"Are not two sparrows sold for a farthing ? and one of them shall not fall on the ground without your father."
—New Testament, Matthew XI, 29.

"There's a divinity that shapes our ends,
Rough—hew them how we will".
—Shakespeare, Hamlet, V, 2.

In his long dramatic career of 26 plays, including two translations from Sophocles, spreading over nearly half a century, from 1892 to 1939, Yeats composed more than a dozen and a half—to be precise, 19-tragedies, out of which more than a dozen are of exceptional merit. Shakespeare "the Imperial" composed 37 plays, out of which about the same number (*i.e.*, a dozen, if we include the Dark comedies) are Tragedies. Beginning from The Countess Cathleen (1892), The Land of Heart's Desire (1894), and Cathleen ni Hoolihan (1902), and passing through On Baile's Strand (1904), The King's Threshold (1904), Deirdre (1907), The Hour-Glass (1914), and The Player Queen (1922) right up to The Herne's Egg (1938), Purgatory (1939), and the Death of Cuchulain (1939), Yeats seems to have passed through a Tragic Phase [1] of great strain and intensity which equals that of Shakespeare's continuous progress through storm and stress [2] through the Dark comedies and Early Tragedies to the tragedies of the highest pitch and culmination reached in Hamlet, Othello, Macbeth, King Lear, and Antony and Cleopatra.

Like Shakespeare,[3] again, the background and foundations for this Tragic Phase in W.B. Yeats are more than one. Foremost among them are the personal events in the poet's life, the changing conditions in the Ireland of his times, the burning social and political problems of the day, as also the *necessary* "melancholia" in the mental set-up of the poet, the melancholia which is almost invariably present in every tragic poet, and which has given birth to almost all the great tragedies in the world.

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[1] Compare the chapter "The Razor's Edge" in "The Essential Shakespeare" by Dover Wilson, and Sir Walter Raleigh on the Tragic Phase of Shakespeare in his book, "William Shakespeare" (Eng. Men of Letters) with V. Koch's book, "W.B. Yeats : The Tragic Phase : A study of his last poems (1951)".

[2] Sir Herbert J.C. Grierson : Yeats was certainly ...... the greates poet I have known in the flesh ...... like the greatest artists, poets, musicians, his work shows a continuous development, its different periods, as in Shakespeare of the early comedies, the histories, the tragedies, the romances.

[3] W.W. Lawrence on Shakespeare : Critics ...... emphasize one or more possible explanations of the problem comedies—personal misfortune or bereavement, disappointment in friendship or in love, the degeneration of the age, the demands of the theatre, the influence of prevailing literary and dramatic fashions, haste and carelessness.

No poet in the whole compass of World—Literature—not even perhaps Shelley or Sapho—has sung so directly out of his own sorrows and emotions, or given so complete expression to his personality in Literature, or has so completely merged the joys and sorrows of his own[1] land with his entire self, or so completely transcended and transmuted his own problems to make them the problems of his own[1] country, and make them themes of universal appeal. This is what T.S. Eliot terms "impersonality in Literature" and says:

"Now among all the poems in Yeats's earlier volumes I find...in a line here or there, that sense of a unique personality which makes one sit up in excitement and eagerness to learn more about the author's mind and feelings. The intensity of Yeats's own emotional experience hardly appears. We have sufficient evidence of the intensity of experience of his youth, but it is from the retrospections in some of his later work that we have our evidence.

I have, in early essays, extolled what I called impersonality in art ... There are two forms of impersonality : that which is natural to the mere skilful craftsman, and that which is more and more achieved by the maturing artist ... He (Yeats) did not master this legend (Irish Legend) until he made it the vehicle for his own creation of character—not, really, until he began to write the Plays for the Dancers. The point is, that in becoming more Irish, not in subject-matter but in expression, he became at the same time universal" [2].

Again, this is what Boyd remarks, "Not only has his (Yeats's) personal contribution to the Theatre been valuable, but his influence has created conditions propitious to the realisation of his wider purpose. The play that is literature has found, not a small coterie, but a public." [3]

Or, Ellmann:

"But this sense of an ulterior responsibility drove him (Yeats) to seek always for patterns and pictures, and to hack and hew at his life until it reached the parabolic meaningfulness he found necessary. He must speak for his generation as well as for himself, and reveal the truth about both." [1]

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[1] "But his plays belong wholly to Ireland".—V.K. Narayana Menon : 'The development of William Butler Yeats," p. 75 (OLiver and Boyd London, 1912).

[2] T.S. Eliot : 'The Poetry of W.B. Yeats', 1940.

[3] E.A. Boyd : "The contemporary Drama of Ireland," T. Fisher Unwin Ltd , London, (1918), p. 87.

From his very birth and boyhood, Yeats seems to have been marked for Tragedy. As he himself says in his Autobiographies, the earliest sensations of his boyhood were "of pain"—and the experiences of childhood go a long way in moulding the character of a man. As Ellmann says: "In a revealing passage in Reveries, William Butler Yeats confessed that he remembered little of childhood but its pain. He had from the first an unhappy time of it. His personal appearance was out of the ordinary; he was delicate, with a complexion so dark that he looked foreign or seemed about to die of a liver ailment. People would often think he came from India. His eyesight was bad and he was eventually to lose sight of one eye. In an unpublished autobiographical novel he refers to himself in the title, 'The Speckled Bird', and quotes the Bible, 'Mine inheritance is as the speckled bird, all the birds of heaven are against it'. 'I wonder', he says, 'why the other birds are so angry'. His awkwardness and physical weakness kept him from being a favourite of the Pollexfens, who were good athletes. To his father's indignation he did not learn to ride well, nor had he the physical courage with which J.B. Yeats made up for his own lack of horsemanship The Pollexfens began to think Yeats mentally as well as physically defective when they could not teach him how to read." (P. 25 of Richard Ellman's Book). Or as W. B. Yeats says, "I may have already had the night of misery when, having prayed for several days that I might die, I began to be afraid that I was dying and prayed that I might live. There was no reason for my unhappiness. Nobody was unkind, and my grandmother has still after so many years my gratitude and my reverence" (Autobiographies, page 6).

Again,

"Some of my misery was lonelines and some of it fear of old Pollexfen my grandfather". (*Ibid.*, p. 7).

Or, again :

"For some months now I have lived with my own youth and childhood not always writing indeed but thinking of it almost every day, and I am sorrowful and disturbed". (*Ibid.*, pp. 131-2).

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[1] Richard Ellmann : Yeats, the man and the masks, p. millan, London 1949).

Born in Ireland, the Celtic element[1] of "wistful melancholy" was rooted in his character and this was accentuated by heredity and the family into which he was born Dr. Norman Jeffares has taken long pains to trace the genealogy of the poet in chapter I of his admirable book, "W. B. Yeats: Man and Poet". His father was an artist, and not very successful in his profession. This, "inheritor of unfulfilled renown"[2] had a complex character which the poet inherited. The frustration of the father, (he was openly an atheist), told much upon the discontent of the poet—"the divine discontent" with life. Moreover, both John Butler Yeats and William Butler Yeats were artists, and all artists all by nature fastidious with life. The non-fulfillment of the full ambitions of the artist John Yeats was pronounced in the poet William Yeats. As Ellmann says, "In December 1908 he[3] began a diary in which he could put his dissatisfaction with his life and his attempts at reformation" . . . (p. 193 of Richard Ellman's book, "Yeats, the Man and the Masks").

Or, as Yeats says,

"I do not listen enough . . . I am always like a child playing with bricks in the corner."

"My work is very near to life itself but I am always feeling a lack of life's own values behind my thought."

(Extracts from Yeats's Diary).

Or, again:

"Yeats was never wholly content with what he had accomplished, and consequently his uneasy searching went on to the last".

(Ellmann, p. 295).

Or,

"It is not that I have accomplished too few of my plans, for I am not ambitious; but when I think of all the books I have read, and of the wise words I have heard spoken, and of the anxiety I have given to parents and grandparents, and of the hopes that I have had, all life weighed in the scales of my own life seems to me a preparation for something that never happens."

(W. B. Yeats: Autobiographies, p. 132).

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[1] Stephen Gwynn: "The reason why Irish literature cannot be compared with Canadian and Australian is that the Irishman has behind him a long succession of work, each stage of it growing out of the other, and all having the imprint of the Irish mind." (Irish Lit: and Drama, p. 2, Ch. I—The Background of the Irish Mind).

[2] Shelley, "Adonais".

[3] W. B. Yeats.

Moreover, the differences in the culture and temperament of the poet's family on the father's side and that on the mother's created a duality and lifelong discontent in the character of the poet and is responsible for much of the element of "Mask" and diversity in him which Richard Ellmann has taken so much pains to analyse and account for in his Essay on Yeats. Jeffares says: The attraction of the Pollexfens for J. B. Yeats must have been in part due to their differences. The Yeatses were a family who talked easily, whose brains fed on ideas; . . . The Pollexfens were not so much interested in the fluidity of ideas as in the solidarity of possessions . . . The Middletons lacked the Pollexfend reserve and all the sense of dignified order that underlay it. It is possible that all these differences were a basic element in the character of the poet, . . . of whom his father said " By marriage with a Pollexfen I have given a tongue to the Sea-cliffs." [1]

Prof. Ellman observes in " Yeats, The Man and the Masks " : " Afraid of insincerity, he struggled unsuccessfully to fuse or to separate the several characters by whom he felt himself to be peopled." (p. 2). " His life was a continual combat, and he chose the hardest battles when he might have chosen easier ones " (p. 6).

It has already been stated how various factors combined to produce in Yeats a sort of " tragic frame " best suited to the production of great tragedies—great in number, and great in intensity, and excellence. A tragic poet is like the fabulous nightingale, who sits upon " the thorns of life and bleeds ". Like Philomel, it sings of this bleeding life, a life of " eternal passion, of eternal pain ".[2] Like the nightingale, again, he learns the dark secrets of life, red in its blood and tears, in the great school of life, a life of inexorable cruelty and ruthless indifference to the sorrows and sufferings of individual men and women. What the poets learn in life, they teach in song. They observe the sufferings of life, and they yearn to give expression to them in Art. They are like the nightingale again, " taught in paradise to ease their hearts with song."

Yeats, also, had his full measure of the cup of misery, of the bitter sweets of life. Unlike Shakespeare, however, this tragic experience of Life did not come to him in middle life—it was not a passing phase with him, but originated and continued from his very boyhood right up to the day of his death. Poverty, ill-health, physical deformities,[1] unhappy experiences with women, the absence of Religion and proper education, discontent in Love,—that great sorrow, "the trouble of my life"[2]—unfulfilled sexual appetites,[3] constant changes of residence, non-fulfilment of personal, political and artistic ambitions for a long, long time, the troublesome social and political conditions of Ireland of his day, "when days are dragon-ridden and the nightmare rides upon sleep",[4] the uncertain international position—all these seemed to have played their parts in him.[5] Sorrow seemed to have eaten into his vitals like the canker in the rose. It was like an ulcer, a chronic disease which dogged him throughout, so that the tragic mood became chronic and permanent in him. Thus it is that the first and the last dramas which he wrote—nay, the first five and the last five: Countess Cathleen (1892), The Land of Heart's Desire (1894), Cathleen ni Hoolihan (1902), On Baile's Strand (1904), The King's Threshold (1904), and A Full Moon in March (1935), The King of the Great Clock Tower (1935), The Herne's Egg (1938), Purgatory (1939), The Death of Cuchulain (1939)—are tragedies, that 19 out of the 26 dramas he composed are tragedies, that Comedy, like the Fool in Shakespeare's King Lear, is almost absent (or, if present, almost silent) in his dramatic productions.[6] The fact is that Yeats became like the violin set to sorrowful tunes, so that whenever the strings of that musical instrument were touched, they issued melancholy notes of song. We shall not enter here into a controversy whether Yeats ever fully recovered from the disintegration[7] in his middle age, or whether there was a complete Re-integration in his Tower-Poems period. We shall discuss that on a different occasion. For the present, it is enough to remark that whatever the case may be, the undoubted fact remains that even if, like Shakespeare, he recovered from that deep abyss of suffering, that recovery was never complete. Like Shakespeare, he had gone through fire, and even if he did emerge out of it, we "smell the fire" too strongly in him.[1] Even if, like Shakespeare, he had passed through "the Razor's Edge",[2] that razor had given him cut—wounds which were too deep to have been healed in life.

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[1] Dr. A. Norman Jeffares, M.A., Ph.D. (Dublin), M.A., D.Phil. (Oxon.), "W. B. Yeats, Man and Poet", p. 8, (Routledge and Kegan Paul Ltd., London, 1949).

[2] Matthew Arnold : "Philomela."

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[1] *Vide* Ellman : Man and Masks. p. 25, quoted ante.

[2] Jeffares quoting Yeats' unpublished Autobiography: "I was twenty-three years old when the trouble of my life began". (P. 59 of Jeffares' Book, "W. B. Yeats : Man and Poet").

[3] W. B. Yeats : Unpublished material : "It was a time of great personal strain and sorrow—since my mistress had left me no other woman had come into my life and for nearly seven years none did. I was troubled with sexual desire and disappointed love. Often as I walked in the woods at Coole it would have been a relief to have screamed aloud". (Quoted by Jeffares, "W. B. Yeats : Man and Poet", p. 118).

[4] W. B. Yeats: "Nineteen hundred and Nineteen," Collected Poems, Macmillan, p. 233, 2nd Edition with later poems added, 1950.

[5] *Vide* Appendix at the end of the Essay..

[6] Yeats wrote two comedies (or farces) :
The Pot of Broth (1904), The Green Helmet (1910), and a Satire, The Herne's Egg (1938), which ends in Tragedy.

[7] The period of "Responsibilities" and other Poems,
"Player Queen" and other dramas.

Sorrow was a persistent note in Yeats's life,[3] so much so that he was inclined, like Shelley, to regard life as a "Vast Vale of tears", or the Earth, like Hardy, "a blighted planet". This is evident from the constant note of sorrow in the poems he wrote (even the Later Poems) and the fair sprinkling of tragedies throughout his dramatic productions, over and above, as already noted, the almost complete absence of comedy in his plays, the overwhelming proportion and number of tragedies he composed, the first five and the last five of his plays which are tragedies (and the insistent melancholy in almost all his plays). He hoped, like Keats, to have bidden good-bye to sorrow, but it never left him, as it never leaves any man :

"To Sorrow, I bade good morrow,
And thought to leave her far away behind ;
But cheerly, cheerly,
She loves me dearly ;
She is so constant to me and so kind".

(John Keats—
Endymion, IV.).

And Yeats says,

There was a man whom Sorrow named his friend,
And he of his high comrade Sorrow dreaming,
Went walking with slow steps........."[4]

Or, "What do you make so fair and bright" ?
"I make the cloak of Sorrow :
O lovely to see in all men's sight
Shall be the cloak of Sorrow,
In all men's Sight".[5]

Thus, when his true love comes, she comes with "red, mournful lips", and with "all the sorrow of this labouring world", and "all the burden of her myriad years". The chirping of the birds seemed to have hid "Earth's old and weary cry" with their glad notes, but that is not to be. The truth will out, and the coming of the Lady Love, instead of covering the world with gladness rakes up the old wound:

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[1] Sir walter Raleigh : Shakespeare (Eng. Men of Letters series).
[2] Dover Wilson : The chapter, "The Razor's Edge", in "Essential Shakespeare".
[3] "That toil of growing up"—W. B. Yeats :
"A Dialogue of self and soul" in the group of poems,
"The Winding Stair and other Poems (1933)"—Collected Poems, page 266.
[4] W. B. Yeats : The Sad Shepherd, and
[5] W. B. Yeats : The Cloak, the Boat, and the Shoes in "Crossways", Collected poems, pp. 9 and 10 respectively.

"The quarrel of the sparrows in the eaves,
The full moon and the star-laden Sky,
And the loud song of the ever-singing leaves
Had hid away earth's old and weary cry.

And then you came with those red mournful lips,
And with you came the whole of the world's tears,
And all the sorrows of her labouring ships,
And all the burden of her myriad years.

And now the Sparrows warring in the eaves,
The crumbling moon, the white stars in the sky,
And the loud chanting of the unquiet leaves
Are shaken with earth's old and weary cry."
(W. B. Yeats : "The Sorrow of Love",
in the Group of Poems, The Rose, 1893).

At the very moment of the consummation of Love and Life, there is the note of Farewell to Life and Joy so that the lovers cry—

"Autumn is over the long leaves that love us,
And over the mice in the barley sheaves ;
Yellow the leaves of the rowan above us,
And yellow the wet wild—strawberry leaves.
The hour of the waning of love has beset us
And weary and worn are our sad souls now;
Let us part, ere the season of passion forget us,
With a kiss and a tear on thy drooping brow".
(W. B. Yeats : "The Falling of the Leaves" in
"Crossways" (1889), Collected Poems, p. 16).

And

"Your eyes that once were never weary of mine
Are bowed in sorrow under pendulous lids,
Because our love is waning".
And then She :
Although, our love is waning, let us stand
By the lone border of the lake once more,
Together in that hour of gentleness

When the poor tired child, Passion, falls asleep,
How far away the stars seem, and how far
Is our first kiss, and ah, how old my heart"!
Pensive they paced along the faded leaves,
While slowly he whose hand held hers replied :
"Passion has often worn our wandering hearts".

The woods were round them, and
the yellow leaves
Fell like faint meteors in the
gloom, and once
A rabbit old and lame limped
down the path;
Autumn was over him : and now
they stood
On the lone border of the lake
once more:
Turning, he saw that she had
thrust dead leaves
Gathered in silence, dewy as her eyes
In bosom and hair.
"Ah, do not mourn", he said,
"That we are tired, for other loves await us;
Hate on and love through unrepining hours.
Before us lies eternity; our souls
Are love, and a continual farewell"

(W. B. Yeats: "Ephemera" in "Crossways", 1889, Collected Poems, pp. 16-17).

In order to escape the evanescence of Joy on Earth, and "the fever, the fret, and weariness"[1] of Passion, that red child of Sorrow, the poet wishes that they were "White Birds" without passion, buoyed on the crest of the waves of the sea, but can they escape the brittle character of love, Life and Desire?

THE WHITE BIRDS.

I would that we were, my beloved, white
birds on the foam of the sea!
We tire of the flame of the meteor, before
it can fade and flee;
And the flame of the blue star of twilight,
hung low on the rim of the sky,

---

[1] John Keats : "Ode to a Nightingale".

Has awaked in our hearts, my beloved,
a sadness that may not die.

A weariness comes from those dreamers,
dew—dabbled, the lily and rose;
Ah, dream not of them, my beloved, the
flame of the meteor that goes,
Or the flame of the blue star that
lingers hung low in the fall of the dew:
For I would we were changed to white
birds on the wandering foam: I and you!

I am haunted by numberless islands,
and many a Danaan shore,
Where Time would surely forget us,
and Sorrow come near us no more;
Soon far from the rose and the lily and
fret of the flames would we be,
Were we only white birds, my beloved,
buoyed out on the foam of the sea!
(W. B. Yeats, Collected Poems, pages 46-47).

Life is short, life is a thing where hopes are continually cheated, desires perennially baulked, where—like the birds in "The Wild Swans at Coole"[1]—everything is "passing away", who knows where, where nothing is permanent except, perhaps, Pain.
As Omar Khayyam says:

(*i*)

And, as the Cock crew, those who stood before
The Tavern shouted—'Open then the Door!
'You know how little white we have to stay,
And, once departed, may return no more'.

(*ii*)

Come, fill the Cup, and in the Fire of Spring
The Winter Garment of Repentance fling:
The Bird of Time has but a little way
To fly and Lo! The Bird is on the Wing.

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[1] W. B. Yeats: "The Wild Swans at Coole" (1919), Collected Poems, p. 147:
"But now they drift on the still water,
Mysterious, beautiful;
Among what rushes will they build,
By what lake's edge or pool
Delight men's eyes when I awake some day
To find they have flown away.".

(*iii*)

And look a thousand Blossoms with the day
Woke—and a thousand scatter'd into Clay:
And this first Summer Month that brings the Rose
Shall take Jamshýd and Kaikóbad away.

(*iv*)

Look to the Rose that blows about us—'Lo,
'Laughing' she says, 'into the World I blow:
'At once the silken Tassel of my Purse
'Tear, and its Treasure on the Garden throw'.

(*v*)

The Worldly Hope men set their Hearts upon
Turns ashes—or it prospers; and anon,
Like Snow upon the Desert's dusty Face
Lighting a little Hour or two—is gone.

(*vi*)

They say the Lion and the Lizard keep
The Courts where Jamshýd gloried and drank deep;
And Bahrám, that Great Hunter—the Wild Ass
Stamps o'er his head, and he lies fast asleep.

(*vii*)

I sometimes think that never blows so red
The Rose as where some buried Caesar bled;
That every Hyacinth the Garden wears
Dropt in its Lap from some once lovely Head.

(*viii*)

Lo! some we loved, the loveliest and best,
That Time and Fate of all their Vintage prest,
Have drunk their Cup a Round or two before,
And one by one crept silently to Rest.

(*ix*)

Into this Universe, and "*why*" not knowing,
Nor "*whence*", like Water willy-nilly flowing:
And out of it, as Wind along the Waste,
I know not "*whither*", willy-nilly blowing.

(x)

What, without asking, hither hurried "*whence*"?
And, without asking, "*whither*" hurried hence!
Another and another Cup to drown
The Memory of this Impertinence!

(xi)

Up, from Earth's Centre, through the Seventh Gate
I rose, and on the Throne of Saturn Sate,
And many knots unravel'd by the Road;
But not the Knot of Human Death and Fate.

(xii)

There was a Door to which I found no Key:
There was a Veil past which I could not see:
Some little Talk a while of ME and THEE
There seem'd-and then no more of THEE and ME.

(xiii)

One Moment in Annihilation's Waste,
One Moment, of the Well of Life to taste—
The stars are setting and the Caravan
Starts for the Dawn of Nothing—Oh, make haste!

(Stanzas 3, 7, 8, 13, 14, 17, 18, 21, 29, 30, 31, 32 and 38 of Edward Fitzgerald's Translation of the "Rubáiyát of Omar Khayyám of Naishápur", the Persian Poet).

Like Bergson's "Cosmic Dance of Life", this constant "flux" of things gave the poet no small sorrow so that he cries out,

"We and the labouring world are passing by,[1] and thinks like Schopenhauer that the only abiding thing in life is Sorrow.

He had thought to send to sleep, passion and "fever of life" by stoic resignation and transmutation of Love, but the insistent gong-like voice breaks out and makes him fretful and feel the travail of Passion to which there is neither "poppy nor mandragora"[2] for assuagement. Even the balm of his Lady-Love's offerings fails to assuage it:

When the flaming lute-thronged angelic
door is wide;

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[1] W. B. Yeats: "The Rose of the world".—Collected Poems, p. 41.
[2] Shakespeare: Othello.

When an immortal passion breathes
in mortal clay;
Our hearts endure the scourge, the
plaited thorns, the way
Crowded with bitter faces, the wounds
in palm and side,
The vinegar-heavy sponge, the flowers
by Kedron stream;
We will bend down and loosen our
hair over you,
That it may drop faint perfume,
and be heavy with dew,
Lilies of death-pale hope, roses of
passionate dream.

(W. B. Yeats: "The Travail of Passion" in "The Wind among the Reeds" group of poems—Collected Poems, pp. 78-79).

Life irritates by its lure, cheats by its attractions, dons gorgeous feathers like figures in a fancy-ball, and when you go to catch hold of it, every thing, as was said in the Bible,[1] falls to dust, breeding an eternal sadness, "a sadness", in the words of Yeats again, "which cannot die".[2] So that the ultimate attitude of the much-suffered man, of the wise man, is the attitude, (to adapt Hegel's theory of Tragedy to a special sense: "From Discord to Harmony"), of acceptance, the stoic attitude of the classical Tragedians, the Greek mood of detatchment, of "no protest" or "murmur"—the note of all great tragedies which we find in Yeats. As Bonamy Dobrée observes while speaking of good Tragedy: "It is good if the acceptance is profound. The great tragic writer 'says Yea' to life in every fibre of his being, however terrible, grim or ghastly it may appear. Rebellion against life itself has never produced great art, for the great artist can, with Keats, see beauty in all things, even in the inexorable working out of the odds against man. 'Beauty is truth, truth beauty': there are a few indeed who can have a tragic perception of the truth, and yet say that wholeheartedly".[3] Yeats was a great tragic poet, and he had this tragic vision of Life: he never "rebelled" against it As Fraser observes, "Yeats was humble before the mystery of life".[1]

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[1] To quote Omar Khayyam again:

Ah, make the most of what we yet may spend,
Before we too into Dust descend;
Dust into Dust, and under Dust, to lie,
Sans wine, sans Song, sans Singer, and sans End.
(Stanza 23 of Ed. Fitzgerald's Translation).

[2] "The White Birds" by W. B. Yeats, quoted ante.

[3] "Thomas Hardy" by Bonamy Dobrée, p. 329 of Eng. critical Essays (20th century). The world's classics, O. U. Press, London (1956).

This note of acceptance is evident specially in "The Death of Cuchulain" (and other tragedies)[2] where Cuchulain goes to meet his death, though he had the option not to go, and the knowledge that going meant his death. This is the mood from which all great Tragedy has sprung[3] and this mood was always present in Yeats, for he had known from Life's experience that this was the best way to meet life and that there was no other way. For Life was like that. It was a hard task-mistress. It was a strange, hard mixture of opposites—of the hard and the soft, of the cruel and the kind. As Rabindranath[4] Tagore, the Indian Nobel-Laureate and a great friend of Yeats, writes: "O Earth! Though art diverse in generosity and ruthlessness".[5] Laughter was impertient in the pattern of life, so that along with the sweet, comes the "bitter of life", smiles with the tears, poison with the nectar. Thus it is that, to avenge the South Wind which blows with all its warmth and Joy comes the East Wind with all its chill and rigour:

"A strange thing surely that my Heart,
when love had come unsought
Upon the Norman upland or in that
poplar shade,
Should find no burden but itself
and yet should be worn out.
It could not bear that burden and
therefore it went mad.
The south wind brought it longing,
and the east wind despair,
The west wind made it pitiful, and
the north wind afraid".

(W. B. Yeats: "Owen Aherne and his Dancers" in "The Tower" Poems,—The Collected Poems, pp. 247-8).

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[1] G. S. Fraser, "W. B. Yeats", p. 29, published by Longman's, Green & Co. Ltd., London, for the Br. Council and the National Book League. "All true poets are fundamentally humble. Yeats was humble before the mystery of life".

[2] *Vide* "The Herne's Egg" (1938), where Congall, King of Connacht offers himself to be killed by a Fool like Cuchulain in the Death of Cuchulain, (1939) mentioned above.

[3] "There's a divinity that shapes our ends,
Rough-hew them how we will".
Shakespeare, Hamlet, V, 2.

[4] Yeats wrote the Preface to Rabindranath Tagore's "Gitanjali", which won the Nobel Prize in 1913. Yeats received the Prize in 1923.

[5] *Vide*: "a reminder that though the earth is our mother, she is also our grave; that the grin upon the living face is not very different from the grin within the skull"—Bonamy Dobrée on "Thomas Hardy," 20th C. critical Essays, p. 346.

The Tragic Vision of William Butler Yeats, like that of Shakespeare, deepened with the maturity of his Life and Art. So that it is idle to talk about re-integration or recovery in his life or art in the middle period. He never recovered from the wounds of his early life—"the cracks of the heart"[1] as he calls them, were repeatedly ripped open and widened with the events of the advancing years of his life. Though marriage and children and other factors alleviated to some extent the intensity of his sorrows of early life, he never forgot them, especially the disappointment in love. Delicate and sensitive as he was, as all poets are, the note of sorrow in his early poems and plays cannot be dispensed with as the sentimental "toyings of the heart" of a young boy. Rather, they were the reservoirs from which he again and again drew for his later poems and plays.

And it was a blessing in disguise to him, for sorrow, like the travail of birth, is the mother of all the good things of life. Like Cassia, like the strings of a lyre, it does not give us sweet scents or sounds unless they are trampled or struck firmly. It gave us his great[2] Tragedies (as in the case of Shakespeare) and the great poems which bear the stamp of eternity over their brow.

APPENDIX

It has to be recounted here that Yeats, from 1887 (when he was twenty-three years old) loved Maud Gonne, daughter of an Irish General, and a revolutionary worker of exceptional beauty. Stephen Gwynn speaks of her in pages 143 and 144 of his book, "Irish Literature and Drama" (Thomas Nelson & Sons, Ltd; 1936): "In the 'eighties, at the height of the revolutionary period which Parnell embodied, there came to Dublin a young woman, so completely her own mistress that she could lead the independent life . . . Born, like Helen or like' Deirdre, to be a danger and to live dangerously, her beauty, 'because of that nobleness of hers' was never overpraised, even by the poet whose recurring theme it was for half a lifetime. Much, it would appear, and much of the best, written for her and about her in early years, was not published till later; . . . yet before the century ended Yeats was already the man who had written the best love poetry of the age. Taking into count what has been added later to that expression of long worship, I do not know the poet in any language out of whom more beauty has been wrung by the passion for a woman.

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[1] "You waves, though you dance by my feet like children at play,
Though you glow and you glance, though you purr and you dart;
In the Junes that were warmer than these are, the waves were more gay,
When I was a boy with never a crack in my heart."

W. B. Yeats: "The Meditation of the old Fisherman" in "Crossways"—Collected Poems, p. 23.

[2] The Tragic Plays of William Butler Yeats will be discussed in a separate article by the author.

** It was never in her nature to be a looker-on at life's adventures; nationalist of the most ardent kind, she was soon involved in movements of revolt, and not only to her poet but to thousands of Irish folk she was the incarnation of that vision which had cheered the Irish imagination through centuries of defeat—known by endearing names, namely, the Dark Rosaleen, the 'Shan Van Vocht' or 'Cathleen the Daughter of Houlihan'. Like all other workers in the movement of which he was the true directing force, Yeats aspired to serve his country. But as a lonely writer of dreamy verse, however beautftul, he could never have given such an impetus as came out of an enterprise whose very essence involved a fellowship by artists."

Maud Gonne declined to marry Yeats partly because of his poetic tendencies which her practical mind did not approve, partly because of his physical deficiencies, and partly because of her revolutionary work. As she said,

"You (Yeats) are (happy), because you make beautiful poetry out of what you call your unhappiness and you are happy in that. Marriage would be such a dull affair. Poets should never marry. The world should thank me for not marrying you." [1] She married, in 1903, MacBride, a revolutionary worker and separated from him in 1905. MacBride was killed in the patriotic rising (Easter Rising) of 1916. Yeats again proposed marriage to her, and was refused a second time. He remained a bachelor for her sake up to the age of 52. It was a most protracted and tantalising affair, and one of the most remarkable in world history. Yeats tried to fall in love a second time, with Diana Vernon, a woman married but neglected by her husband, lived with her for some time (1895-96), after which she left him on coming to know about his relations with Maud Gonne. Yeats has recorded the event in a poem :

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[1] Maud Gonne MacBride, "A servant of the Queen", (her autobiography), p. 328.

"Pale brows, still hands, and dim hair,
I had a beautiful friend
And dreamed that the old despair
Would end in love in the end:
She looked in my heart one day
And saw your image was there;
She has gone weeping away."[1]

After a long time, Yeats proposed marriage to the beautiful Iseult, whom Maud Gonne had adopted as her daughter, but Iseult refused him, after which Yeats married in 1917, at the age of 52, Miss Hyde-Lees, who though not remarkable for her beauty, made a devoted wife to him. The couple had two children, a son and a daughter, who seem to have been dearly loved by Yeats, who composed two poems, "A Prayer for my Son," and "A Prayer for my daughter" on them.[2] Yeats owes his long mystical poem, "A Vision" (1917-1925) to his wife, of whom he has said in a letter to Lady Gregory:

"My wife is a perfect wife, kind wise and unselfish. I think you were such another young girl once. She has made my life serene and full of order."[3]

And Jeffares writes:

"After their marriage Yeats and his wife stayed for a short while at Ashdown Forest. It was obvious to Mrs. Yeats that her husband was extremely unhappy, and she decided that he needed something to keep him from thinking of his personal worries. She therefore decided that she would make an attempt to fake automatic writing.

To her subsequent surprise and to her husband's eager interest odd sentences were produced on a subject of which she knew nothing. Yeats became convinced of the importance of these revelations which they received by means of Mrs. Yeat's automatic script to which they devoted some hours daily. Thus was 'A Vision' born. The poet ceased to worry about Iseult, focussed his attention on the interpretation of the messages and became more cheerful.

'A Vision' was published in 1925; it represents the culmination of Yeats's attempts to find something in which he could believe. The fact that he could believe, even temporarily, in the strange system which he built up in 'A Vision' is responsible for some of the positive strength of the poems he wrote after his marriage. It is essential for the interpretation of much of his later verse." [1]

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[1] W. B. Yeats: "The Lover mourns for the loss of Love", in the group of poems, "The Wind among the Reeds" (1899), Collected Poems, Macmillan, London, page 68.

[2] W. B. Yeats: "A Prayer for my son", Collected Poems, p. 238.
W. B. Yeats: "A Prayer for my Daughter," Collected poems, p. 211.

[3] Quoted by J. Hone, "W. B. Yeats," 1865-1939, p. 307.

And Ellman says,

"Marriage seemed the solution to many problems: it would give him a family, a home and peace of mind in which to work. After the death of MacBride Yeats went to Paris and proposed to Mand Gonne . . . she refused, and he then became infatuated with her beautiful adopted niece, Iseult. After some months of deferring her reply to his proposal of marriage, however, Iseult decided against it.

Yeats was luckier than he knew. He had long had more than a casual interest in Georgie Hyde-Lees, a friend of Mrs Shakespear and Ezra Pound. They had first met in 1911, and he had several times visited her and her family for week-ends, finding in her a charming companion and a kindred spirit in his occult studies. She had become interested in psychical research by reading a book of Lambroso, and from time to time after her first meeting with Yeats. she helped him to check the authenticity of information given him by mediums. In 1914 she joined a group of Rudolf Steiner Theosophists, and that same year Yeats suggested that she become a member of the Golden Dawn . . .

Miss Hyde-Lees, with her remarkable subtlety and sense of humour, seemed to be specially fitted for organising a lyric poet's errant life. Yeats was greatly attracted to her and felt that she would be able to help him to move forward. On October 21, 1917, after a short engagement, they were married.

A few days after their marriage, Mrs. Yeats for the first time attempted automatic writing. There were a few meaningless lines, and then suddenly she thought that her hand was seized by a superior power. In the fragmentary sentences that were scribbled on the paper her amazed husband saw the rudiments of the system which he had spent his early life trying to evoke through vision, and his middle life to formulate through research. Here, in his own house, was miracle without qualification. The bush was burning at last."

"Had Yeats died instead of married in 1917, he would have been remembered as a remarkable minor poet who achieved a diction more powerful than that of his contemporaries but who, except in a handful of poems, did not have much to say with it . . . If bachelorhood had continued, we may reasonably assume also that personal problems would have gone on operating, as they had done for many years, as brakes upon his mind.

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[1] Dr. A. Norman Jeffares, M.A., Ph.D. (Dublin), M.A., D Phil. (Oxon.): "W. B. Yeats, Man and Poet", pp. 191-192, (Routledge and Kegan Paul Ltd., 1949, London).

Marriage to Georgie Hyde-Lees released his energies like a spring. He fell deeply in love with his wife and knew for the first time the happiness of a relatively uncomplicated relationship with another person. He was astonished to find himself playing the role of husband and, after February 1919, of father, without feeling that it was a role at all. 'The marriage bed', he wrote later, 'is the symbol of the solved antinomy'. Certainly it was so for him, and the ecstasy of the solution shines through the worldly humour of the poems, 'Solomon and the Witch' and 'Solomon to Sheba', which he wrote in 1918. A great serenity came over Yeats as he emerged from the isolation and eccentricity of bachelorhood into peace and harmony. His wife was kind self-sacrificing; she understood his strange mixture of arrogance and diffidence, and behind the pose which he put on before strangers found him deeply human. For his part, Yeats kept no more diaries of his mental difficulties, wept no more over a barren passion and no longer thought of himself as shut out from common experience . . . A newly acquired sense of strength enabled him now to write lyric after lyric in which he spoke, with fresh confidence, in his own person. He would say a few years later to Tagore that as husband and father he felt 'more knitted into life'.

Marriage was a humanising and normalizing experience, but in no sense a prosaic one ".[1]

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[1] Richard Ellman: Yeats the Man and the Masks, pp. 223-224. Macmillan & Co. Ltd. London, 1949.

CURSE OF SOCIAL HABITS

CHUNILAL MITRA, M.A.

In a spirit of agony and despair Milton in his *Samson Agonistes* remarked that nations grown corrupt

> " . . . love bondage more than liberty,
> Bondage with ease than strenuous liberty."

And Milton is greatly right. In our case the remark is highly significant. That we as a race have grown corrupt beyond measure and almost beyond recovery, that we are loath to 'strenuous liberty' are too well known to be substantiated. That we do love bondage, more precisely 'bondage with ease' remains amply to be illustrated and corroborated.

1. POLITICAL AFFRONT:

The greatest tragedy of our national character is that we tend to forget almost everything in our prosperity whatever we learnt in our adversity. For centuries we assiduously held fast and adhered to some ideals and principles, which we have now managed to cast to the four winds. Only decades back for some slightest insinuation or pettiest affront committed by the Britishers, our erstwhile masters, we not only protested, demonstrated and agitated, but also raised storms in the central and provincial legislatures to get the wrong acts either amended or withdrawn. In his *Autobiography* Pundit Nehru made a pointed reference to the incident that when the insult of *lathi*-charge was perpetrated on Lala Lajpat Rai the whole of the Punjab rose to a man But to-day we do not only not vehemently protest against any wrong and injustice done to us but even bow down to some major national humiliations accepting them as matter-of-course facts. These conspicuously speak of our degradation *enmasse*.

2. COMMODITIES OF DAILY USE:

Political events apart, we have been used to some bad habits and social malpractices so much so that we have lowered ourselves to the low level of a mass of impotent beings. For instance, there was a time when tea was unknown to the Indian soil. We then abhorred this drink not so much because of its being a foreign sponsore importation as of its having a pernicious reaction. At present we do almost universally take it knowing full well that it is a poor apology for breakfast or tiffin and a camouflage for right and required type of food. In spite of our fabulous wealth of livestock, *i.e.*, cattle-resources, in spite of regularly periodical import of hundreds of buffaloes and milch cows in Calcutta, for instance, pure milk has become a thing of the past. *Ghee*, cheese and butter have become distinct misnomers to-day, while a hydra-headed illicit product, *dalda*, has captured the field instead. Though in India the first import of *dalda* was made after the World War I and its first factory was set up only in 1930, and in spite of its nil food value, it has highly been spoken of in the press only because it is some big men's concern, some millionaire's trade.

Thus in all walks of our life—daily, social and political we are indulging in deception and double-dealing, and the counterfeit is passing off as genuine. Once we stood for some decency and decorum. At present we have outgrown their necessity. These are proofs positive that not only national degeneration has set in, but also wide corruption has gripped us to the core.

3. HOPE AND FRUSTRATION :

From a cursory review of the things as they are it is not in the least preposterous to infer that our society is almost doomed for the present as we have lost confidence in the elders, who have had their days almost out. Only we can cherish a faint hope for the future, if, of course, our youths are made of pure gold. As otherwise, there is no way to be out of the rot. Depravity and dishonesty would then sway over all spheres of our life. In fact, society is to be built up from the bottom and not from the top. The solidarity of the society rests largely on the sweet understanding, solid and effable relation between the youth and the old. Social acts of high integrity of the elders depend largely and necessarily on the disciplined behaviour of the young not only because the young of to-day become adults of to-morrow, but also because the present day youths react on and influence tremendously the elders' action even to-day. Again, social morality depends on daily activity.

4. ROLE OF THE YOUTHS :

So, to bring about a social regeneration, a reorientation in the outlook of our youths is to be made. They have to learn a pattern of good dealings. While declining the Presidentship of the Congress and proposing the same to Pundit Nehru (1929) Mahatma Gandhi remarked : "The battle of the future has to be fought by younger men and women." The remark holds good even now. In the annual session of the AICC at Calcutta (1956) Pundit Nehru exhorted the youths to 'keep in step', to be disciplined, so that they might be the builders of the nation to-morrow. Surely, youths are destined to play an important role in future. But the action of a section, however small, of them is a positive menace to the healthy growth of the society and of the nation. Not only a spirit of disobedience and lawlessness has overtaken them but also an arrogant feeling of defiance has taken the upper hand in them.

5. JUVENILE SMOKING :

To do away with this growing disruption the elders have to attend to the petty and yet recurring bad habits of the youths. One such bad habit and disturbing practice is smoking. While smoking itself is bad, juvenile smoking is a veritable menace, a positive nuisance to the society. The latter speaks out an indisciplined brain and an unrestrained mind of the youths. Its successful and progressive checking, therefore, means a successful stopping of the much-rowdy, defiant and turbulent elements in society. Even twenty years back tobacco was not so extensively used in our society. And among the users again there was a restriction, a perceptible aloofness between the young and the old. A young man of even fifty then felt much diffidence, delicacy and reluctance to smoke before an old man of sixty. Closely related or remotely known, the young demanded from the old ungrudging love, sympathy and affection, and the old, in their turn, commanded obedience, respect and veneration over the young. The relation was cordial and reciprocal. This cordiality on the one hand and yet restriction on the other have been lost and perhaps lost for good. Consequently, the health of the society has been deteriorated, Corresponding deterioration in the morals of the young is being markedly observed. Some young men take to smoking in wrath and vengeance, some as a cloak for idleness, still others to shield their insolence. Juvenile smoking, thus, is just an outburst of this social disruption on the one hand and moral degradation on the other.

In some States, West Bengal for instance, laws and ordinances have been promulgated to check juvenile smoking. But the best enacted laws in the Statute books would be of no avail unless we elders rise up to the occasion and some promising youths take up the matter in right earnest as a measure for their moral rehabilitation. If young China could abolish centuries-old opium-eating in several years time, there is no reason why Young India would not be able to abolish at least juvenile smoking once for all in two years time by labour, prohibition and persuasion.

6. LAWS AND DEVELOPMENTS :

The State Government of West Bengal have settled to set up in course of the next five years as many as two hundred libraries in the rural areas with a view to disseminating learning and knowledge. All other States in tune with the scheme of the Union Government are out to wage crusade against illiteracy in some such multipurpose ways. But, if smoking amongst the young testifies to their unplanned purpose and unbalanced mind, and if this habit goes widespread in the younger generations, we have every reason to conjecture that, all these measures—even the National Discipline Scheme of Mr. Bhonsle for students—would come to nothing, and those centres of learning would in no time be converted into rendezvous for idle talks, vulgar gossips and not unlikely for base tussels. Thus, if the youths indulge in this vile habit unabatted, they would put the wheel of progress back by decades.

7. AGE LIMIT :

While putting a check to juvenile smoking the range and age-limit should not be fixed at fourteen or eighteen, but must be extended to all youths having their educational career incomplete, no matter they are Arts, Science, Medical or Engineering students, and no matter they are school, College or university going up to the age of even 24/25. That would at least be in keeping with the fractional Indian past culture and pristine tradition of having a rigidly disciplined academic life, a faint reminiscence of which is in practice in the present day Gurukul. The best meritoricus students must not get exemptions from the elders and must not enjoy any prerogatives. For, persons having the highest Intelligence Quotent may be even equally morally depraved. Though the Intelligence Quotent is generally measured on the basis of general and special faculties, moral faculty and make-up is the pivot and central factor round which and on the basis of which the superstructure of the character is built. Unless compiled with high integrity and discipline genius may be expressed in robbery, burglary and treachery even. The most abiding and interesting qualities in human beings are their good behaviour and amiable disposition. So, the youths have to cultivate not only rashness and impetuousity, but also restrain, rigidity and discipline; purity, honesty and truthfulness. They must have to bear it in mind that true freedom is only to be found where 'those who think govern those that toil', and where people of all classes share the burden of the whole, and that our happiness depends little on political institutions and much on the temper and regulation of our mind. Discipline of habits, movements and thought is all they need for the present. For the elders, again, they must not remain passive onlookers to the gradual drift and deterioration, but must retell the youngsters the value of some such old sermons which have not yet been exploded.

8. Conflict of Cultures:

It is no longer a fad or fantasy but a longdrawn fight of ideologies whether our young men and women should smoke or not. It is a conflict of cultures—Western or Eastern, abolition or revival of a tradition—English or Indian. If smoking goes on unchallenged, unchecked and unprotested and as rampantly as it is going on to-day, we have every reason to believe and infer that they will take to drinking to-morrow and some other worse intoxication day after to-morrow with the result that we would be transformed into an intoxicated and emasculated race in twenty years hence. The point is that all exhuberance and vivacity, enthusiasm and recklessness, luxury and license must come to a halt somewhere. So, the solution of the issue must not brook any delay and all-out measures must be made in co-operation with the youths themselves to put a permanent stop to this practice right from today.

9. Conclusion

The President of the Fourth World Buddhists Conference (1956) held at Katmandu remarked that there cannot be peace until there is disarmament, and there will be no disarmament until there is disarmament in our heart. Likewise, we may say that cultural advancement of the nation is impossible inspite of all high sounding *-isms* at our disposal until the people become highly moral and they cannot be moral until and unless some primary and petty indulgences of the youths are nipped in the bud and rooted out from their sources.

HAD INDIA A RIGHT UNDER THE LAW OF THE U.N. CHARTER TO REFER THE KASHMERE CASE TO THE SECURITY COUNCIL UNDER CHAPTER VII THEREOF ?

Subimal Kumar Mukherjee

Department of Political Science, University College of Arts, Calcutta.

There have been comments in some quarters that India committed a serious blunder in referring the Kashmere case to the Security Council under Chapter VI (Art. 35), that she ought to have brought the matter before the Security Council under Chapter VII which deals with enforcement measures in cases of threats to the peace, breaches of the peace or acts of aggression. It is also contended that as it was a clear case of aggression by Pakistan on Kashmere and, since Kashmere's accession to India, on India as well, the proper course of action for India was to ask the Security Council not to apply peaceful methods of settlement but to use the rod against the law-breaker and aggressor. There is undoubtedly some logic behind this stand: yet technically and legally it is doubtful if India had any lawful right under the U.N. Charter to bring the issue before the Security Council under Chapter VII thereof. Formulated in general terms the question is—Has a member of the U.N. a right to refer a case to the Security Council under Chapter VII of the Charter ? The issue deserves a careful scrutiny with an academic analysis and answer.

Chapter VI of the U.N. Charter is the chapter on the Pacific Settlement of disputes and contains Articles 33 to 38. Chapter VII opens with Article 39 and ends with Article 51 and is entitled "Action with respect to threats to the peace, breaches of the peace, and acts of aggression." From the functional point of view there is thus a basic and fundamental difference between the provisions of these two chapters. Hence procedurally and functionally it surely makes some difference as to whether an issue is being handled by the Security Council under Chapter VI or Chapter VII. Of course peaceful settlement of disputes or adjustment of situations is not completely ruled out under Chapter VII: there is scope for that also thereunder,[1] specially under Article 39. Yet we see that the primary emphasis of Chapter VI is on peaceful settlement; whereas that of Chapter VII is on enforcement action. Nobody perhaps will challenge that. Now the question is—had India a right under law to refer the Kashmere case to the Security Council under any of these Articles 39 to 51 of Chapter VII? India actually referred the case to the Security Council under Article 35 of Chapter VI. Would it not have been wiser to ask the Security Council to act promptly under Chapter VII, when it was a case of illegal armed invasion *i.e.* aggression on India? This raises the question of India's competence in the matter and to that we turn.

As stated above, Chapter VII contains Articles 39 to 51. A scrutiny of these Articles reveals that there may be scope for reference of issues to the Security Council only under Articles 39 and 51 of this chapter. Other Articles rule out any such possibility, they dealing with the nature of action to be taken by the Security Council. Article 40 deals with the provisional measures that the Security Council may call upon the parties to apply in order to prevent an aggravation of the situation. Articles 41, 42, 43 deal with the enforcement measures either "not involving the use of armed force" or requiring action by air, sea or land forces and impose a compulsory duty on the U.N. members to apply military sanctions against the guilty state on a call from the Security Council in accordance with a special agreement or agreements. Article 44 requires the Security Council to invite a member not represented on it to participate in decisions if that member is called upon to provide armed forces in fulfilment of the obligations of Article 43. Article 45 obligates the U.N. members to hold immediately available national airforce contingents for combined international enforcement action. Articles 46 and 47 contain the details regarding the composition and the functions of the Military Staff Committee. Under Article 48 either all the U.N. members or some of them, as the Security Council may determine, shall take the action required to carry out the decisions of the Security Council. Article 49 requires the U.N. members to join in affording mutual assistance in carrying out the measures decided upon by the Security Council. Under Article 50 a state, whether a member or non-member shall have the right to consult the Security Council for the solution of all the problems it may be faced with on account of the preventive or enforcement measures taken by the Security Council. I have given here the gist of all these Articles 40 to 50 to show that there is no scope for referring any dispute to the Security Council under them. The reader is at liberty to go through these articles from the U.N. Charter, only, I believe, to reach the same con clusion. Two other Articles of the Chapter remain—the first (Art. 39) and the last (Art. 51). Under these there may be some scope. Let us analyse these two in detail and let us see if India was authorized to refer the issue under any of these two. We take up Article 39 first.

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[1] See Kelsen—The Law of the U.N. p. 138.

Article 39 of the Charter runs thus—"The Security Council shall determine the existence of any threat to the peace, breach of the peace, or act of aggression and shall make recommendations, or decide what measures shall be taken in accordance with Articles 41 and 42, to maintain or restore international peace and security." This is the wording of Article 39. Can any state, member or non-member, refer or submit any dispute to the Security Council under this Article? The answer is neither clear nor simple. The proceedings of the San Francisco Conference throw no light on this specific issue. That being so, we are to ascertain its meaning by reading the other articles in contrast and comparison, by analysing the state practices and precedents in the matter and also by turning to the opinion of the jurists and the experts in the field.

Peace is sought to be preserved and restored by the U.N. under Articles of both chapters VI and VII. Under Chapter VI both members and non-members have the right to refer any potentially dangerous case to the Security Council. Let us turn to the drafting of the relevant Article in this connection—which is Article 35 of the Charter. Paragraph 1 of Article 35 enacts—"Any member of the United Nations may bring any dispute or any situation of the nature referred to in Article 34 to the attention of the Security Council or of the General Assembly." (The dispute or situation of the nature referred to in Article 34 is one the continuance of which is likely to endanger the maintenance of international peace and security). Under paragraph 2 of Article 35 again, a state *which is not a member of the U.N.* "may bring to the attention of the Security council or of the General Assembly any dispute to which it is a party if it accepts in advance, for the purposes of the dispute, the obligations of pacific settlement provided in the present Charter." In both these two cases the drafting is in terms of "may bring" implying thereby a right of the members (Art. 35, para 1) and non-members (Art. 35, para 2) to refer the case to the Security Council. But in Article 37, paragraph 1, the drafting is in terms of "shall refer" ("should the parties to a dispute of the nature referred to in Article 33 fail to settle it by the means indicated in that article, they shall refer it to the Security Council") implying thereby a duty, and not a right, of the members to refer the case to the Security Council after the failure of the pacific methods of settlement. (In any case) my point is that in the first two paragraphs of Article 35 the members and also the non-members have specifically been given the right to bring cases before the Security Council and the drafting has been done accordingly.) ✓.

But the story in the case of Article 39 is different. Here "the *Security Council shall determine* the existence of any threat to the peace etc." There is no such thing as "a member may bring to the attention of the Security Council" which is then to determine the existence of any threat to the peace etc. Is this difference in drafting without any significance? Is it a case of casual omission or of deliberate definite implication? To argue that it is the former is to be unfair to the framers of the Charter who were so cautious and guarded in their approach. The contrasting phraseology can never be without significance. The only logical and rational interpretation is then that the members and the non-members have no such right under Article 39 as they have under Article 35. If they have a right to refer any case endangering international peace and security to the Security Council under Article 35, they have ordinarily (if they are not members of the Security Council) no such right under Article 39. To read the same meaning from different draftings is, I believe, to belittle the value of an international document like the U.N Charter.

This stand is supported by Kelsen. He asks—"How can a dispute or another situation be brought before the Security Council under Article 39, that is to say, as a case constituting a threat to, or breach of, the peace?" And he answers—"certainly by the Security Council itself, on its own initiative"[1] It thus follows that difference in drafting connotes a difference in meaning. /Any and every member of the U.N. cannot submit a case to the Security Council under Article 39; rather the Security Council itself is to take up the issue for determining if there is the existence of any threat to the peace etc. But what may be the meaning of the clause "the Security Council shall determine" or of the phrase of Kelsen "on its own initiative"? The Security Council is not something abstract—it is a body composed of members. Hence "the initiative of the Security Council" or the "Security Council shall determine" means that *"any member of the Security Council* may ask to put such a case on the agenda of the Security Council." [1] Be it noted that under this interpretation an issue can be brought before the Security Council *"by any member of the Security Council" and "not by any member of the United Nations."* That is why Kelsen observes—' It is doubtful whether 'any Member of the United Nations' under Article 35, paragraph 1, and a non-member under Article 35, paragraph 2, may bring to the attention of the Security Council a dispute or another situation in order to be dealt with under Article 39." According to this interpretation of Article 39, members of the U.N. but non-members of the Security Council have no right under the law of the U.N. Charter to refer a case to the Security Council under Article 39. And it should be noted by the readers that at the time when the Kashmere case was referred to the Security Council by India on January 1, 1948, she was not a member of the Security Council. [2] Any attempt on her part to bring the matter before the Security Council under Article 39 would or could have been declared out of order or irregular by the Security Council itself. ✓

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[1] Kelsen—Law of the U.N. p. 438.

And this approach is further corroborated by India's own stand in the Indonesian case. The first case to be brought before the Security Council under Article 39 was the Dutch-Indonesian case in 1947. It was brought before the Security Council by the representative of the Government of Australia in July, 1947. *But the most important point to note in this connection is that Australia at that time was a member of the Security Council.* It was also brought before the Security Council by the Government of India under Article 35, paragraph 1, and India was not a member of the Security Council then. What the representative of India said in the 171st meeting of the Security Council (July 31, 1947) has a direct bearing on the issue we are discussing and largely settles the point of controversy. He stated: "India has asked for action under Chapter VI, which relates to disputes the continuance of which is likely to endanger the maintenance of international peace and tranquility. Australia has applied under Chapter VII, which relates to actual threats to the peace. There is really no difference of opinion between Australia and India in this matter. *We did not,*however, *invoke the more urgent provisions of Chapter VII, for we felt that, not being a member of the Security Council, we are not entitled to do so.* We rejoice that Australia has taken up the matter under the provisions of Chapter VII, and we are most grateful for this action."[1] The representative of India took this stand in the matter and accepted the interpretation that only a member of the Security Council may bring a case under Article 39 before the Security Council. After offering and accepting this interpretation in one case, India cannot with consistency put forward a conveniently different interpretation of the same thing in another case. That may hoodwink the unthinking—but that would surely invite the ridicule of the saner members of the organization.

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[1] Kelsen—*Ibid* p. 438.

[2] The non-permanent members of the Security Council on 1 January, 1948, were—Belgium, Colombia, Syria, Argentina, Canada and Ukrainian S.S.R. And there were the five permanent members. India, then, was not a member of the Security Council when the Kashmere case was referred to it.

This analysis is further reinforced by a study of the few other cases coming before the Security Council under Article 39. In the Spanish question Article 39 was sought to be invoked. At the 34th meeting of the Security Council held on 17th April 1946, the representative of Poland, a member of the Security Council, after referring the Spanish question under Articles 34 and 35 to the Security Council submitted a resolution under which the Security Council was to call upon the members to take action against Spain under Articles 39 and 41.[2] Action under Articles 39 and 41 was not ordered by the Security Council. Here we see that the issue was brought before the Security Council under Articles 34 and 35. Even if it had been brought before the Security Council under Article 39, that would not vitiate our thesis as Poland was at the time a member of the Security Council.

In the Greek question again Article 39 was sought to be applied. The question was originally referred to the Security Council in a communication, dated, 3rd. December 1946 under Articles 34 and 35. Later on in a letter, dated 31st July 1947, the Minister for Foreign Affairs of Greece requested the Security Council to take action under Article 39.[3] The move was foiled by veto. In any case, this is not an instance of original submission of a dispute to the Security Council under Article 39: it is the example of an attempt to get a dispute transferred from Chapter VI to VII. That is definitely a lawfully open course for India; and we would ask India to follow this course. But this case also lends support to the stand we seek to establish herein.

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[1] Official Records of the Security Council, 2nd year, 1947, No. 67, p. 1620.

[2] For details see Official Records of the Security Council, First Year, First Series No. 2 pp. 153 ff.

[3] For details see U.N. Year Book 1946-47 p. 360; 1947-48, pp. 346-350.

In the Palestine question again Articles 39 and 41 were sought to be applied. But in this case no individual state took up the issue: the matter was handled by the General Assembly in its resolution[1] of November 29, 1947. In a part of this resolution the General Assembly asked the security Council to take action under Articles 39 and 41, if necessary. This case also thus does not affect the fundamentals of our analysis.

The most important case in which Articles 39 and 41 were not only invoked but also applied was the Korean case. Here we see that the issue was referred to the Security Council for immediate action under Articles 39 and 40 by the United States of America, a permanent member of the Security Council and also by the United Nations Commission on Korea.[2] The Security Council met in emergent sessions, branded North Korea as an aggressor and sanctions were applied against North Korea. But the Korean case was brought before the Security Council by the United States of America, a permanent member of the Security Council, and also by the U. N. Commission on Korea. Hence our thesis stands—*viz.* a member of the U. N. but not a member of the Security Council cannot bring a case before the Security Council under Article 39.

The difference in drafting of Articles 35 and 39, the opinion of experts and commentators and the analysis of all these cases and state practices—all lead to the conclusion that India, not being a member of the Security Council at the time (*i.e.* in 1948), had no lawful right to refer the Kashmere case to the Security Council under Article 39. And any attempt on her part to act in that way would have exposed her to the ridicule of the saner sections. Of course India could get it referred under Article 39 by some member, either permanent or non-permanent, of the security Council. But that might have opened the possibility of political bargaining which India abhors.

Let us now turn to the scope of reference of the dispute under Article 51 of Chapter VII of the Charter. Article 51 is the famous article on self defence. It lays down—"Nothing in the present Charter shall impair the inherent right of individual or collective self defence if an armed attack occurs against a Member of the United Nations, until the Security Council has taken the measures necessary to maintain international peace and Security. Measures taken by

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[1] Text of the Resolution in U.N. Year Book, 1947-48, p. 403.
[2] See U.N. Year Book, 1950, p. 221.

Members in the exercise of this right of self defence shall be immediately reported to the Security Council and shall not in any way affect the authority and responsibility of the Security Council under the present Charter to take at any time such action as it deems necessary in order to maintain or restore international peace and Security." Under this Article the right of self defence, individual or collective, is 'inherent' and cannot be impaired by the Charter and its provisions. But this right is to operate only when an "armed attack" 'occurs' on a Member of the United Nations. But who is to judge if an 'armed attack' has occurred ? Obviously the state which considers itself as being attacked and the other states willing to help it. But the state believed by the other parties as guilty of "armed attack" is equally competent to interpret Article 51 in its own way and may go on arguing that it has not indulged in 'armed attack.' In that case in its view it is the victim of 'armed attack' against which it can exercise measures of self defence. Thus far we find that there is no scope for referring the dispute to the Security Council under this Article.

But we see that under this Article again 'measures taken by Members in the exercise of this right of self defence shall be immediately reported to the Security Council.' It is through this provision of Article 51 that a matter can be brought before the Security Council. But it must be noted that the state taking action in self defence is to report immediately to the Security Council 'the measures taken' ; it is not a question of referring the dispute or the case to the Security Council. It may amount to that : yet technically there is a difference and a line can be drawn. These measures taken in self defence are to stop as soon as the Security Council 'has taken the measures necessary to maintain international peace and security.' It does not necessarily follow herefrom that the Security Council is to take action under Articles 39, 41 and 42, when the measures taken in self defence have been reported to it under Article 51. Still Article 51 and Articles 39,41,42—all belong to Chapter VII. Hence it may be expected and assumed that the measures taken by the Security Council under Article 51 should be one of those referred to in Articles 39,41 and 42. But the Security Council may not take enforcement action and may just make a recommendation.

Whatever the interpretation of Article 51 may be, our point here is that, if not the dispute as such, the measures taken in self defence not only can be but "shall be reported" to the Security Council. And through such reporting of the measures the issue as such comes before the Security Council.) Hence there was a scope for reporting of the measures' taken by India (if India considered herself a victim of 'armed attack' and she was taking measures in self defence) to the Security Council and thereby indirectly for referring the case to the Security Council (if this interpretation is permitted) under Article 51 of Chapter VII.

But I believe that the essence of Article 51 is the right of self defence. The question of the reporting of the measures taken in self defence is a subsidiary one and this reporting is a duty under this drafting. To see in this a scope for referring a case to the Security Council even indirectly is, I think, to mistake the means for the end. Moreover we are discussing as to whether India had a *right* to refer the *Kashmere case* to the Security Council under Chapter VII; whereas under Article 51 the *reporting of the measures* is a *duty*. Moreover would it not have been largely pointless on the part of India to argue that in the Kashmere case she was acting in self defence under Article 51 against an 'armed attack' from Pakistan? For actually in the letter of complaint against Pakistan, Pakistan was declared guilty of helping the tribal raiders in various ways and not declared guilty of 'armed attack' as understood in Article 51.

Hence I emphatically declare that under Article 51 there is no scope for direct reference of a dispute to the Security Council; indirect reference may be there through the reporting of the measures taken in self defence to the Security Council but it must be noted that this is not a right and discretion but a duty and obligation. Had India invoked Article 51, she would have no option in the matter but would be obliged to report the measures to the Security Council immediately. Hence India had no right to bring any case before the Security Council under Article 51; she could take measures in self defence and she would be under the obligation to report these measures immediately to the Security Council.

I believe that India acted in the proper legal manner in referring the Kashmere case in 1948 to the Security Council under Article 35. There have been many developments thereafter. Facts and events establish, at least from India's point of view, that Pakistan is an aggressor. Pacific settlement with the aggressor is a concession to lawlessness. There should be sanctions against the law breaker. For that the application of Chapter VII is necessary. As India feels thus, she should try to get the dispute transferred from Chapter VI to Chapter VII. Original reference of a dispute to the Security Council under Article 39 by a state which is not a member of the

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Security Council is not permitted in law. Had India been a member of the Security Council at the time, such reference would have been justified. Under Article 51 the scope of reference is uncertain : if it is there at all, it is indirect. Hence the argument that India committed a blunder in not referring the Kashmere case under Chapter VII is not legally and scientifically correct and does not stand scrutiny.

Reviews and Notices of Books

A Survey of Contemporary Banking Trends—by Professor S. K. Basu, M A., Ph.D. :—The Book Exchange, Calcutta, 1957. Pages 574. Price Rs. 16.00.

Dr. Basu is the author of a number of well-known works on Indian banking and financial problems and it is pleasing to welcome a new book from him on contemporary developments in banking. The present book, one notes, does not deal with Indian problems alone; it is a general treatise on the theory and practice of banking and it rests solidly on historical studies of the problems of the banking sector in many different countries of the world According to the author, the book has grown out of his earlier work, *Recent Banking Developments*, which ran into three editions within a relatively short period of time. The reader notices, however, that in practically every respect the book is a new work. The coverage is much wider than in the earlier book and there is no important aspect of the banking structure that has not been analysed and no important issue that has been evaded. The student of banking problems in India will welcome Dr. Basu's book as one of the most useful publications that have been placed in his hands in recent years.

The book is divided into *three* parts, of which the *first* deals with the trends in central banking. This part starts with an analysis of the relation between the central bank and the treasury and of the forces that have led to nationalisation of the central bank in many countries. Following a chapter on the reserve requirements of central banks, there are instructive discussions on the revival of the bank rate as an instrument of monetary control and on open market operations. The problem of the variable reserve ratio has been thoroughly examined in the light of the requirements of underdeveloped economies and there is also a similarly illuminating discussion on selective credit control. Towards the end of this part there is a chapter on the objectives of central banking policy and here also the problems of a developing economy have been kept in the foreground.

The *second part* deals with commercial banking and goes into practically all the important problems—composition of deposits, cash and liquidity ratios, trends in bank advances, bank-financing of industry, maturity distribution of the investment portfolio, insurance of deposits, legislative control and nationalisation. The *third part* contains two detailed chapters on the International Monetary Fund and the World Bank.

In all these discussions, Dr. Basu has been remarkably successful in blending theoretical analysis with a presentation of the changing facts of a very complex picture. He has drawn on the varied experiences of many countries and it is particularly instructive to read his comparisons of the banking laws and practices of the newly developing countries. Of course, the main centre of Dr. Basu's interest is India and the reader gets throughout a valuable running commentary on the Indian banking and monetary problems in the light of the new developments in theoretical analysis and of the developments in banking practices in comparable countries. It is particularly interesting to read his analysis of such problems as selective credit controls in India, or the Bill Market Scheme, or the nature of bank advances, or monetary regulation in the Second Plan period.

Aside from comprehensiveness of coverage, the most noticeable merit of Dr. Basu's book is his moderation in regard to conclusions. He argues carefully and modestly, taking in as many viewpoints as possible, and is nowhere guilty of overstating his case. If his conclusions appear somewhat hesitant in places, it is presumably due to the honest recognition of the difficulties of coming to more certain conclusions. All this appears very clearly in some of the most valuable parts of his book, *e.g.*, his discussion of the efficacy of the bank rate policy or of the variable reserve ratio system. The problem of the efficacy of the instruments of monetary control assumes great complexities in all mixed economies and the nature of these complexities is different according to the degree and character of the 'mixedness' of the economy concerned. Dr. Basu appears to have fully recognised the difficulties and it is possible to read in his cautious arguments a high level of maturity of observation and thinking.

The only serious criticism that can be put forth against the book relates to its size. The book would not have suffered, and would probably have improved, if some of the descriptive and historical material were condensed and if some of the references to individual opinions were eliminated. Judging from past experience, one can legitimately hope that a new edition of the book will soon be necessary and it may be expected that Dr. Basu will utilise the opportunity to re-edit some of his discussions of problems and facts which were relevant in the immediate postwar period but are not quite important now.

BHABATOSH DATTA

Ourselves

CONVOCATION ADDRESSES

Cold weather season or the months of December and January are generally the time all over India for holding annual Convocations and delivering convocation addresses. The convocation address in our University this year was delivered by one of the distinguished sons of our *alma mater*, Shri S. R. Das, the chief Justice of India. To commemorate the centenary of the University, the Senate at a special convocation on 23rd January, 1957, conferred on him the honorary degree of Doctor of Laws. The Vice-Chancellor's address, as usual, mainly surveyed the progress and developments in the University during the past academic year. But the address of the chief guest, Chief Justice S. R. Das dealt with a wider field of academic thought and educational activities. Addressing convocations is an art, and convocation addresses generally draw attention not merely to matters of topical interest concerning universities, but they also illuminate many moral and ethical maxims for the citizens of the morrow. The address of Chief Justice Das was no exception to the rule. Matters of fundamental and permanent import in our educational system to-day are the duties and responsibilities of the educated, the due discharge of which is all the more necessary in a country which is educationally socially and economically backward. In such a situation the short-comings of the present system should, instead of discouraging, act as a spur to further efforts, if the vicious circle of poor resources, imperfect education and continued poverty of resources is to be broken. It should be remembered that university education is only a preparation for enlightened citizenship and such a citizenship is a life-long process. A great thinker once said: "The weaknesses of democracy are the opportunities of education." Education therefore, properly planned and rightly executed, can remove the hindrances to good citizenship.

Then again, parliamentary democracy can only become successful and effective by a wide diffusion of education among all ranks in the community. There should be a ladder of learning which should reach from gutter to the Universities, and this learning would bring about a fusion of men most variously born and circumstanced, in one human society. Such an education would also be able to remove class impediments and lay the same foundation for all alike in a system of comprehensive national education. This would further ensure not only a thoroughly educated but also a socially united people. A common education is the only means of removing jealousies and social separations prevalent within the people of a country. "Common education" said Professor Thomas Hill Green, "is the true social leveller. Men and women who have been at school together, or who have been at schools or colleges of some sort, will always understand each other, will always be at their ease together, will be free from social jealousies and animosities however different their circumstances in life may be". This is national education properly so-called, and this is educational socialism. In a parliamentary democracy the object should certainly be an ultimale reconstitution of society through that of education ; and through well-planned education, it would be possible to effect a considerable change in the tone of society and to remove many of its barriers. University education can not and ought not to be merely a part of a national plan for industrial and economic advancement. The pursuit of truth for its own sake, the pursuit of moral and ethical values must be an important component of the ideal of a University. It may sound paradoxical, but it is never the less true that such disinterested devotion to knowledge has brought more benefit to man than the quest of immediate utilities. The criticism, that our university education is far too abstract and academic, is wrong. Progress of the world, progress in human civilization and also progress in man's daily lives have been made possible by man's power to go beyond the particular and frame theories and generalizations which have universal application. Higher education must from the very nature of the case be somewhat abstract and academic. Only through such education can be promoted the ultimate welfare and happiness of mankind.

Notifications

CALCUTTA UNIVERSITY

Notification No. CSR/1/58

It is notified for general information that the changes in Chapter XLI of the Regulations relating to Law Examinations which were passed by the Senate on the 11th March, 1957 and notified under Notification No. CSR/11/57, dated the 4th April, 1957, will be enforced giving effect to the Law Examinations to be held from December, 1958 term as follows :—

Preliminary Law Examination ..	From December, 1958 term
Intermediate Law Examination ..	From June, 1959 term
Final Law Examination ..	From June, 1960 term

2. Alternative questions will be set for the LL.B. Examinations according to old syllabi for and from the terms of the Preliminary, Intermediate and Final Law Examitions (as detailed in the foregoing paragraph with further three chances in each) and option will be given to candidates to write out their answers according to old syllabi or according to the new syllabi.

The above decision was made by the Academic Council on the 12th December, 1957.

SENATE HOUSE,
The 15th January, 1958.

D. CHAKRAVARTI,
Registrar.

CALCUTTA UNIVERSITY

Notification No. CSR/2/58

It is notified for general information that Cardiology and Epidemiology have been included in the list of subjects for the D.Phil. degree in Medicine by the Academic Council at their meeting held on the 12th December, 1957.

SENATE HOUSE,
The 6th January, 1958.

D. CHAKRAVARTI,
Registrar.

BIHAR UNIVERSITY

From,
Sri P. Raychaudhuri, Registrar,
Bihar University,
Patna—4.

Circular No. 3

Patna, the 6th February, 1958

SIR,

I have to inform you that Sri Ram Baboo Prasad Singh (Regd. No. 100/56), who submitted forged and wrong mark-sheet of the I.Sc. Examination in connection with his admission in the Darbhanga Medical College, Laheriasarai, has been debarred from taking admission in any college for three years with effect from the 17th January, 1958, *i.e.*, till the year 1960.

Yours faithfully,
P. RAYCHAUDHURI,
Registrar.

OFFICE OF THE MAHAKOSHAL BOARD OF SECONDARY EDUCATION JABALPUR (MADHYA PRADESH)

Notification

No. 214 *Jabalpur, the 5th February, 1958*

It is notified for information of all concerned that the registered abbreviated Telegraphic address of the Mahakoshal Board of Secondary Education, Madhya Pradesh, Jabalpur is "EXAMS", Jabalpur.

MUMTAZUDDIN,
Secretary,
Mahakoshal Board of Secondary Education, Jabalpur.

PANJAB UNIVERSITY (CHANDIGARH)

Notification

It is hereby notified that—

1. (*i*) Third-class M.A's, who re-appear in the M.A. Examination (new scheme) in order to improve their division, are permitted to take both Part I and Part II Examinations together in the same year, if they so desire ;

(*ii*) Third class M.A's are permitted to re-appear in the M.A. Examination in the same subject in order to improve their division as private candidates without satisfying any other capacity laid down under the Regulations relating to "private candidates."

2. The following persons have been disqualified as noted against each :—

(*i*) Pritam Singh S/o. Shri Jodh Singh Gujral, who tried to get a duplicate copy of the Matriculation Certificate on the basis of a false statement of having passed the said examination from the Panjab University, Lahore, in 1946, has been declared as not a fit and proper person to be admitted to any future examination of this University.

(*ii*) Parshotam Singh Mahil, S/o. S. Udham Singh, Roll No. 44899 and Puran Chand S/o. Shri Nauhria Ram, Roll No. 44904 Matriculation Examination, March, 1957, who gave help to Mohan Singh, have been disqualified for the year 1957 and their results have been quashed.

(*iii*) Mohan Singh, S/o. Shri Rattan Singh, Roll No. 44830, Matriculation Examination, March, 1957 who received help from the above candidates, has been disqualified for the year 1957.

3. Sindhi has been added as an additional optional subject for the B.A. Examination, as a permanent measure.

4. The result of Raghbir Singh Sandal S/o. S. Saran Singh, Roll No. 298, B.T. Examination, May, 1957, has been quashed, under Regulation 7 at page 221 of the Calendar, Part II, 1957.

5. Duplicate certificates for the examinations held by the Panjab University, Lahore, before 1948, in respect of which the result gazettes are available, shall continue to be issued by the University.

CHANDIGARH CAPITAL,
Janyary 29, 1958.

J. R. AGNIHOTRI,
Registrar.

PANJAB UNIVERSITY

CHANDIGARH

No. 2014-2193/58G. *The 30th January,* 1958.

From
The Registrar,
Panjab University,
Chandigarh.

To
The Principals of all the colleges affiliated to the Panjab University, Chandigarh.

SIR/MADAM,

I am to inform you that the Principal, Khalsa Training College, Mukatsar, *vide* his letter No. 465, dated the 8th January, 1958, has rusticated for one academic year the following student, with effect from the 8th January, 1958 for the reason(s) mentioned against his name (Regs. 4 and 5, Panjab University Calendar, 1954, Vol. III, page 17) :—

Sl. No.	Name and the Regd. No. of the student	Father's name	Class	Reasons for rustication.
(1)	Trilochan Singh (48 rn. 92)	Bawa Daswandha Singh.	B.Ed.	Persistent and gross mis-conduct.

KESAR MALL,
Assistant Registrar (*Cdn.*),
For *Registrar.*

SRI VENKATESWARA UNIVERSITY

No. B-11472/57. *Tirupati, the 21st January, 1858*

From
The Registrar,
Sri Venkateswara University,
Tirupati.
To
The Principals of University and affiliated colleges.

SIR,

Subject—University Examinations—September, 1957—cases of malpractices—punishment regarding.

I have the honour by direction to inform you that the Syndicate at its meeting held on the 27th December, 1957 resolved as follows :—

"*Resolved*—That the results of the following candidates who appeared for the September examinations of 1957 be cancelled and that the candidates be debarred for one year and that they be permitted to appear again for the respective examinations not earlier than March, 1959 :—

I. INTERMEDIATE EXAMINATION

Sl. No.	Name of the candidate	Register number	Centre
(1)	Sri O. Sivarami Reddy	1781	Tirupati
(2)	Sri Y. Ramaiah	963	Kurnool
(3)	Sri M. Suryanarayana Reddy	998	Kurnool
(4)	Sri K. Nageswara Rao	945	Kurnool
(5)	Sri K. Lakshmanna	776	Kurnool
(6)	Sri R. C. Rama Subba Reddy	765	Kurnool

II. B.A. DEGREE EXAMINATION

(1)	Sri J. Gangadharappa	231	Kurnool
(2)	Sri P. Venkatamuni Reddy	550	Tirupati

Resolved—That the result of M. Anantapadmanabhaiah who sat for the Intermediate Examination (Parts I and II) held in September, 1957, be cancelled and that he be permitted to appear afor the examination again not earlier than September, 1958."

Yours faithfully,
M. RAMANUJA RAONAIDU,
Registrar.

NAGPUR UNIVERSITY

Order

The following examinees, having been found guilty of attempting to use unfair means at the Supplementary Examinations held in September-October, 1957, are disqualified for admission to any University Examination to be held before September, 1959, *viz* :—

Sl. No.	Roll No.	Name in full	Examination	College
1	447	Moeez Bhai	Intermediate in Arts	Ex-student
2	120	Mohd. Siddiq Meman	Intermediate in Commerce	Ex-student
3	15	Alfred D'Souza	Intermediate in Science	Ex-student
4	5	Amarjit Singh Sohi	B.Sc. (Pass)	Ex-student
5	50	Bharatkumar Chatterjee.	Final Examination for the Diploma in Engineering.	Ex-student
6	7	Nemichand Jain	First B. Tech.	Ex-student

By order of the Executive Council,
Illegible,
Registrar,
NAGPUR UNIVERSITY.

UNIVERSITY OF KERALA

Proceedings of the Syndicate

No. D.Dis.6056/57

Order

The Syndicate having found the undermentioned candidates at the University Examinations held in March, 1957 guilty of misconduct or resorting to unfair means at the examinations resolved that the examinations taken by the candidates be cancelled and that they be debarred from appearing for any Examinations of this University earlier than the date noted against the name of each.

By order,

Illegible,
Registrar.

UNIVERSITY BUILDING,
TRIVANDRUM,
The 7th February, 1958.

Malpractice at the University Examinations held in March, 1957

Sl. No.	Name of candidate.	Registration No.	Examination taken by the candidate.	Date of birth	Name of father or Guardian.	Address	Period of Punishment.
1	Sri Amiruddin. M.	482	University previous Examination.	8th April, 1936	Sri P. K. Moosa	Sri Amiruddin M. C/o. P. K. Moosa Parilathu House, Alwaye.	Not to appear for any examination of this University earlier than March, 1959.
2	Shri Kali, M.A.	1411	Do.	(E. E.) 20th December, 1937. (M. E.) 5th May, 1113.	Sri Azhakan Thevan.	Sri Kali, M.A. C/o. Azhakan Thevan, Eravi peroor, Thiruvalla.	Do.
3	Sri Sree Padmanabha Pillai. S.	4126	Do.	(E. E.) 24th December, 1937. (M. E.) 9th May, 1113.	Sri K. P. Subramonia Pillai.	Sri Sree Padmanabha Pillai. S. S/o. Sri K. P. Subramonia Pillai Erachakulam, Erachakulam, P.O, Kanyakumari Dist.	Do.
4	Smt. Gomathykutty. G.	4949	Do.	(M. E.) 12th February, 1115. (E. E.) 28th September, 1939.	Sri K. Gopalan	Smt. Gomathykutty G. C/o. K. Gopalan, Kunikazhicom, Mayyanad.	Not to appear for only examination of this University earlier than March, 1958.
5	Smt. Gomathy. J.	4950	Do.	(E. E.) 17th August, 1937 (M. E.) 1st January, 1113	Sri K. Narayanan Asary.	Smt. Gomathy. J. Thazhathil House, Chittayam Perumon, P. O. Perinad, Quilon.	Do.
6	Smt. Indira E.	4954	Do.	25th February, 1937	Sri K. P. Karunakaran.	Smt. Indira. K. C/o. K. Karunakaran, Physician, Neevaril, Perinad, Quilon.	Do.
7	Sri Babu T. S.	5542	Do.	17th April, 1938	Sri Skaria T. A.	Sri Babu T. S. Thenguvilaveedu Nedumpaikulam, Kundara, P. O.	Do.

8	Sri Baby. N.	5543	Do.	(M. E.) 8th October, 11[illegible]1 (E. E.) 21st May, 1936	Sri Koshy Ninan	Sri Baby N. Mankuzhupana Puthen veedu, Vayala, Kadakal, Quilon.	Do.

No. D.Dis.6056/57.

OFFICE OF THE UNIVERSITY OF KERALA
TRIVANDRUM.
The 7th February, 1958.

Illegible
Registrar

BIHAR UNIVERSITY

Circular No. 1

Patna the 7th January, 1958.

The undermentioned candidates are debarred from appearing at any University Examination prior to the examination noted against their names, as they were found guilty of using unfair means at the Annual Intermediate and Bachelor Examinations of 1957 in Arts, Science, Commerce, Agriculture and Engineering Faculties and M.A. Examinations of 1957.

Sl. No.	Name of Centre and College	Name of Examinations and Roll Nos.	Registration No.	Name of the candidate	Punishment
1	H. D. Jain College, Arrah.	I.A., Arr.—59	19209-55	Krishnadeo Sharma	Debarred from appearing at any University Examination prior to the Supplementary Examination of 1958.
2	Do.	I.A., Arr.—183	18223-55	Nawal Kishore Sharma	Debarred from appearing at any University Examination prior to the Annual Examination of 1959.
3	Do.	I.A., Arr.—588	18051-55	Sk. Md. Muslehuddin	Debarred from appearing at any University Examination prior to the Annual Examination of 1959.
4	Do.	I.A., Arr.—563	20489-56	Sidheshwar Pd. Singh	Debarred from appearing at any University Examination prior to the Annual Examination of 1959.
5	Do.	I.A., Arr.—615	20484-56	Hari Bhushan Prasad	Debarred from appearing at any University Examination prior to the Supplementary Examination of 1958.
6	Do.	I.A., Arr.—251	18609-55	Bir Bahadur Prasad Sinha	Debarred from appearing at any University Examination prior to the Supplementary Examination of 1958.
7	Do.	I.Com., Arr.—41	19266-55	Ram Ayodhya Prasad	Debarred from appearing at any University Examination prior to the Annual Examination of 1959.
8	Do.	B.A., Arr.—70	17881-55	Nirmal Kumar Sinha	Debarred from appearing at any University Examination prior to the Annual Examination of 1959.

Sl. No.	Name of Centre and College.	Name of Examinations and Roll Nos. of the candidate.	Registration No.	Name of the candidate	Punishment
9	Maharaja College Arrah.	I.A., Arr.—882	13997-56	Kameshwar Narayan Singh	Debarred from appearing at any University Examination prior to the Annual Examination of 1959.
10	Do.	I.A., Arr.—959	13076-56	Ram Bhagwan Mahto	Debarred from appearing at any University Examination prior to the Supplementary Examination of 1958.
11	Do.	I.A., Arr.—1009	18282-56	Shree Krishna Pd. Sinha	Debarred from appearing at any University Examination prior to the Annual Examination of 1959.
12	H. D. Jain College, Arrah.	I.Sc., Arr.—135	16483-55	Rabish Kumar Sinha	Debarred from appearing at any University Examination prior to the Annual Examination of 1959.
13	S. Sinha College, Aurangabad.	I.A., Aur.—108	11581-56	Ranjit Kumar Sinha	Debarred from appearing at any University Examination prior to the Annual Examination of 1959.
14	Do.	B.A., Aur.—7	13770-53	Chitta Ranjan Sinha	Debarred from appearing at any University Examination prior to the Annual Examination of 1959.
15	Do.	I.A., Aur.—4	10941-56	Gholam Mustfa Khan	Debarred from appearing at any University Examination prior to the Supplementary Examination of 1958. Also deemed to be expelled from the Annual I.A. Examination of 1957.
16	A. N. S. College, Barh.	I.A., Barh.—212	11808-56	Ram Chandra Prasad	Debarred from appearing at any University Examination prior to the Annual Examination of 1959.
17	Do.	I.A., Barh.—451	3350-55	Ram Pratap Sinha	Debarred from appearing at any University Examination prior to the Annual Examination of 1959.
18	M. J. K. College, Bettiah.	I.A., Bet.—32	14806-55	Mankeshwar Prasad	Debarred from appearing at any University Examination prior to the Annual Examination of 1958.
19	Do.	I.A., Bet.—76	4174-51	Rai Nageshwar Varma	Debarred from appearing at any University Examination prior to the Supplementary Examination of 1958.
20	T. N. J. College, Bhagalpur.	I.Sc., Bhag.—19	3400-56	Uma Kant Jha "Umesh"	Debarred from appearing at any University Examination prior to the Annual Examination of 1958.
21	Do.	I.Sc., Bhag.—21	3430-56	Umesh Chandra Jha.	Debarred from appearing at any University Examination prior to the Supplementary Examination of 1958.
22	Do.	I.Sc., Bhag.—182	3151-56	Sunilkumar Ghosh	Debarred from appearing at any University Examination prior to the Annual Examination of 1959.
3	Do.	I.Sc., Bhag.—196	9008-55	Prabhu Nath Srivastava	Debarred from appearing at any University Examination prior to the Supplementary Examination of 1958.

24	Do.	I.Sc., Bhag.—288	9074-55	Raj Kishore Prasad Gupta	Debarred from appearing at any University Examination prior to the Supplementary Examination of 1958.
25	Do.	I.Sc., Bhag.—311	18454-55	Satish Kumar Agrawal	Debarred from appearing at any University Examination prior to the Supplementary Examination of 1958.
26	Do.	B.A., Bhag.—24	12896-53	Kamta Singh	Debarred from appearing at any University Examination prior to the Annual Examination of 1959.
27	Do.	B.A., Bhag.—172	13244-53	Anirudh Sharma	Debarred from appearing at any University Examination prior to the Supplementary Examination of 1958.
28	Marwari College, Bhagalpur.	I.A., Bhag.—401	10552-56	Bhubneshwar Mandal	Debarred from appearing at any University Examination prior to the Annual Examination of 1959.
29	Do.	I.A., Bhag.—457	10527-56	Ramjee Prasad Sinha	Debarred from appearing at any University Examination prior to the Supplementary Examination of 1958.
30	Do.	I.A., Bhag.—590	1170-55	Nityanand Prasad	Debarred from appearing at any University Examination prior to the Annual Examination of 1959.
31	Do.	I.A., Bhag.—544	1159-55	Shree Nandan Jha	Debarred from appearing at any University Examination prior to the Supplementary Examination of 1958.
32	Do.	I.A., Bhag.—643	733-55	Lakshmi Narayan Singh	Debarred from appearing at any University Examination prior to the Annual Examination of 1959.
33	Do.	I.Com., Bhag.—11	9039-56	Upendra Mahto	Debarred from appearing at any University Examination prior to the Annual Examination of 1959.
34	Marwari College, Bhagalpur.	I.Com., Bhag.—121	8948-56	Surendra Prasad Sinha	Debarred from appearing at any University Examination prior to the Supplementary Examination of 1958.
35	Do.	I.Com., Bhag.—178	9563-55	Basudeo Prasad	Debarred from appearing at any University Examination prior to the Annual Examination of 1959.
36	T. N. J. College, Bhagalpur.	B.A., Bhag.—151	12939-53	Sagar Prasad Mishra	Debarred from appearing at any University Examination prior to the Supplementary Examination of 1958. Also deemed to be expelled from the Annual B. A. Examination of 1957.
37	Do.	B.A., Bhag.—152	1917-52	Satya Narayan Singh	Debarred from appearing at any University Examination prior to the Supplementary Examination of 1958. Also deemed to be expelled from the Annual B.A. Examination of 1957.
38	S. K. R. College, Barbigha.	I.A., Barb.—5	6822-56	Abdul Moghni	Debarred from appearing at any University Examination prior to the Supplementary Examination of 1958.

Sl. No.	Name of Centre and College.	Name of Examinations and Roll Nos. of the candidates.	Registration No.	Name of the candidate	Punishment
39	Do.	I.A., Barb.—31	6856-56	Jagdish Prasad Yadav	Debarred from appearing at any University Examination prior to the Supplementary Examination of 1958.
40	Do.	I.A., Barb.—76	6824-56	Ramashraya Pd. Singh	Debarred from appearing at any University Examination prior to the Annual Examination of 1958.
41	G. D. College, Begusarai.	I.A., Beg.—268	712-56	Baidyanath Prasad Singh	Debarred from appearing at any University Examination prior to the Annual Examination of 1958.
42	Do.	I.Sc., Beg.—5	326-56	Upendra Jha	Debarred from appearing at any University Examination prior to the Annual Examination of 1958.
43	Do.	I.Sc., Beg.—29	186-56	Nageshwar Prasad Das	Debarred from appearing at any University Examination prior to the Annual Examination of 1959.
44	Nalanda College, Biharsharif.	I.A., Nal.—227	20378-55	Hari Narayan Prasad	Debarred from appearing at any University Examination prior to the Annual Examination of 1959.
45	Do.	I.A., Nal.—462	10624-55	S. M. Hafeez Zafri	Debarred from appearing at any University Examination prior to the Annual Examination of 1959.
46	Do.	I.Sc., Nal.—139	20806-55	Ram Lagan Sinha	Debarred from appearing at any University Examination prior to the Annual Examination of 1958.
47	Do.	I.Sc., Nal.—189	15035-53	Tanik Prasad Sinha	Debarred from appearing at any University Examination prior to the Annual Examination of 1959.
48	Do.	B.Sc., Nal.—11	15022-53	Brajanandan Sinha	Debarred from appearing at any University Examination prior to the Supplementary Examination of 1958.
49	Rajendra College, Chapra.	I.Sc., Chap.—18	12426-56	Om Prakash Singh	Debarred from appearing at any University Examination prior to the Annual Examination of 1959.
50	Jagdamb College, Chapra.	I.Sc., Chap.—454	12739-55	Sheo Kumar Singh	Debarred from appearing at any University Examination prior to the Annual Examination of 1959.
51	C. M. College, Darbhanga.	I.A., Dar.—3	20523-55	Amarnath Jha "Anil"	Debarred from appearing at any University Examination prior to the Supplementary Examination of 1958.
52	C. M. College, Darbhanga.	I.A., Dar.—460	3923-54	Jagdish Narayan Mandal	Debarred from appearing at any University Examination prior to the Annual Examination of 1958.
53	Do.	B.A., Dar.—155	15374-53	Lakshmi Nath Singh	Debarred from appearing at any University Examination prior to the Annual Examination of 1959.
54	S. P. College, Dumka.	I.A., Dum.—33	6717-56	Bal Mukund Pandey	Debarred from appearing at any University Examination prior to the Annual Examination of 1959.
55	Gaya College, Gaya.	I.A., Gay.—242	16103-55	Ram Kripal Sinha	Debarred from appearing at any University Examination prior to the Supplementary Examination of 1958.

56	Do.	I.A., Gay.—314	16279-55	Sheo Chandra Prasad	Debarred from appearing at any University Examination prior to the Annual Examination of 1958.
57	Do.	I.A., Gay.—651	10880-56	Rudranand Lal	Debarred from appearing at any University Examination prior to the Supplementary Examination of 1958.
58	Do.	I.A., Gay.—699	653-55	Kumari Bimla Devi	Debarred from appearing at any University Examination prior to the Annual Examination of 1958.
59	Do.	I.Com., Gay.—132	7367-55	Gopal Prasad Singh	Debarred from appearing at any University Examination prior to the Supplementary Examination of 1958.
60	Do.	B.Sc., Gay.—14	13780-53	Mohammad Naziruddin Haider	Debarred from appearing at any University Examination prior to the Supplementary Examination of 1958.
61	Do.	B.Com., Gay.—3	4179-54	Amarnath Ram	Debarred from appearing at any University Examination prior to the Supplementary Examination of 1958.
62	Godda College, Godda.	I.A., Godd.—8	2467-57	Krishna Mohan Mandal	Debarred from appearing at any University Examination prior to the Annual Examination of 1959. Also deemed to be expelled from the Annual I.A. Examination of 1957.
63	Do.	I.A., Godd.—21	2395-56	Mandreshwar Mal	Debarred from appearing at any University Examination prior to the Supplementary Examination of 1958.
64	Do.	I.A., Godd.—46	15027-55	Manaskumar Das	Debarred from appearing at any University Examination prior to the Supplementary Examination of 1958.
65	Do.	I.A., Godd.—16	2477-56	Prabhas Chandra Jha	Debarred from appearing at any University Examination prior to the Supplementary Examination of 1958.
66	R. N. College, Hajipur.	I.A., Haji.—72	4202-56	Vishwanath Singh	Debarred from appearing at any University Examination prior to the Supplementary Examination of 1958.
67	Do.	I.A., Haji.—77	14659-56	Braj Nandan Singh	Debarred from appearing at any University Examination prior to the Supplementary Examination of 1958.
68	S. S. College, Jehanabad.	I.A., Jehan.—35	11222-56	Gyaneshwar Pd. Sharma	Debarred from appearing at any University Examination prior to the Supplementary Examination of 1958.
69	Co-operative College, Jamshedpur.	I.A., Jam.—256	13072-	B. Narasingh Rao	Debarred from appearing at any University Examination prior to the Annual Examination of 1959.

S. No.	Name of Centre and College.	Name of Examinations and Roll Nos. of the candidate.	Registration No.	Name of the candidate	Punishment
70	Kosi College, Khagaria.	I.A., Khag.—124	5290-54	Manohar Mishra	Debarred from appearing at any University Examination prior to the Annual Examination of 1959.
71	Do.	I.Com., Khag.—5	9588-55	Rajendra Prasad	Debarred from appearing at any University Examination prior to the Supplementary Examination of 1958.
72	Do.	I.Com., Khag.—23	5201-55	Hare Ram Singh	Debarred from appearing at any University Examination prior to the Annual Examination of 1959.
73	Do.	I.Com., Khag.—12	5263-54	Jai Narayan Prasad Saha	Debarred from appearing at any University Examination prior to the Annual Examination of 1958. Also deemed to be expelled from the Annual I.Com. Examination of 1957.
74.	L. S. College, Muzaffarpur.	I.Sc., Muz.—304	3506-55	Hari Shankar Pandey	Debarred from appearing at any University Examination prior to the Annual Examination of 1959.
75	Do.	I.Sc., Muz.—157	13982-56	Sachidanand Sinha	Debarred from appearing at any University Examination prior to the Annual Examination of 1959.
76	Do.	B.Sc., Muz.—7	10041-51	Chandramohan Das	Debarred from appearing at any University Examination prior to the Supplementary Examination of 1958.
77	Do.	I.Sc., Muz.—190	8503-55	Mahesh Chandra Ondhwar	Debarred from appearing at any University Examination prior to the Annual Examination of 1959. Also deemed to have been expelled from the Annual I.Sc. Examination of 1957.
78	M. S. College, Motihari.	I.Sc., Mot.—31	2502-56	Jitendra Singh	Debarred from appearing at any University Examination prior to the Supplementary Examination of 1958.
79	M. S. College, Motihari.	B.Sc., Mot.—6	7682-53	Bameshwar Prasad	Debarred from appearing at any University Examination prior to the Supplementary Examination of 1958.
80	R. D. S. College, Muzaffarpur.	B.A., Muz.—123	337-54	Ashwini Kumar Sinha	Debarred from appearing at any University Examination prior to the Supplementary Examination of 1958.
81	R. D. and D. J. College, Monghyr.	I.A., Mong.—516	8806-56	Satis Prasad Singh	Debarred from appearing at any University Examination prior to the Annual Examination of 1958.
82	Do.	I.Sc., Mong.—177	12121-53	Awadh Kumar Sinha	Debarred from appearing at any University Examination prior to the Annual Examination of 1959.

83	Do.	I.A., Mong.—307	8791-53	Haricharan Chaudhuri	Debarred from appearing at any University Examination prior to the Annual Examination of 1958. Also deemed to be expelled from the Annual I.A. Examination of 1957.
84	Do.	I.A., Mong.—378	10066-55	Ram Kishore Chaudhuri	Debarred from appearing at any University Examination prior to the Annual Examination of 1958. Also deemed to be expelled from the Annual I.A. Examination of 1957.
85	R. K. College, Madhubani.	I.A., Madhu.—118	15175-56	Balkrishna Jha	Debarred from appearing at any University Examination prior to the Annual Examination of 1959.
86	J. P. College, Narayanpur.	I.A., Nar.—142	13080-55	Brahmadeo Prasad Singh	Debarred from appearing at any University Examination prior to the Annual Examination of 1959.
87	Do.	I.A., Nar.—170	2887-55	Deorani Devi	Debarred from appearing at any University Examination prior to the Supplementary Examination of 1958. Also deemed to be expelled from the Annual I.A. Examination of 1957.
88	College of Commerce, Patna.	I.A., Pat.—6	8900-55	Amar Singh	Debarred from appearing at any University Examination prior to the Annual Examination of 1959.
89	Do.	I.Com., Pat.—50	10189-56	Jagdish Prasad Sinha	Debarred from appearing at any University Examination prior to the Supplementary Examination of 1958.
90	Do.	I.Com., Pat.—343	15096-55	Syed Mohammad Sami	Debarred from appearing at any University Examination prior to the Annual Examination of 1959.
91	Ranchi College, Ranchi.	I.A., Ran.—344	6744-54	Pratapchandra Ghosh	Debarred from appearing at any University Examination prior to the Annual Examination of 1959.
92	Do.	I.Sc., Ran.—59	17478-55	Nalin Kant Upadhaya	Debarred from appearing at any University Examination prior to the Supplementary Examination of 1958.
93	Do.	B.A., Ran.—35	7403-49	Jagdishchandra De	Debarred from appearing at any University Examination prior to the Annual Examination of 1959.
94	S. R. K. Goenka College, Sitamarhi.	I.A., Sit.—175	9188-56	Prakash Chandra Mishra	Debarred from appearing at any University Examination prior to the Annual Examination of 1959.
95	Do.	I.Sc., Sit.—53	2240-56	Ram Naresh Prasad Singh	Debarred from appearing at any University Examination prior to the Annual Examination of 1958.
96	Samstipur College, Samstipur.	I.A., Sam.—300	4665-47	Girish Chandra Prasad Sharma	Debarred from appearing at any University Examination prior to the Annual Examination of 1959.
97	Do.	I.Sc., Sam.—48	15406-56	Rameshwar Prasad Singh	Debarred from appearing at any University Examination prior to the Supplementary Examination of 1958.

Sl.	Name of Centre	Name of Examination and Roll Nos. of the candidate.	Registration	Name of the candidate	Punishment
98	D. A. V. College, Siwan.	I.Sc., Siw.—22	8422-56	Bhola Prasad	Debarred from appearing at any University Examination prior to the Supplementary Examination of 1958.
99	Ranchi Agricultural College, Kanke.	B.Sc. (Agri.) Junior, Ran.—32.	13394-53	Lallan Prasad	Debarred from appearing at any University Examination prior to the Annual Examination of 1959.
100	Bihar Agricultural College, Sabour.	B.Sc. (Agri) Pre. Sab.—45.	15337-53	Maheshwar Prasad Jha	Debarred from appearing at any University Examination prior to the Supplementary Examination of 1958.
101	Muzaffarpur Institute of Technology.	B.Sc. (Eng.), Part I, Muz.—5632	19586-55	Bharat Singh	Debarred from appearing at any University Examination prior to the B.Sc. (Eng.) Part I Examination of 1959.
102	College of Commerce, Patna.	M.A., Pat.—192	693-47	Miss Leela Banerjee	Debarred from appearing at any University Examination prior to the M.A. Examination of 1959.
103	Do.	M.A., Pat.—248	3105-43	Nageshwar Prasad	Debarred from appearing at any University Examination prior to the M.A. Examination of 1959.
104	Do.	M.A., Pat.—360	11462-56	Sri Syed Aziz Ahmad	Debarred from appearing at any University Examination prior to the M.A. Examination of 1960.

A. NARAYAN,
Controller of Examinations,
BIHAR UNIVERSITY, PATNA.

BIHAR UNIVERSITY

Circular No. 2

Patna, the 10th January, 1958.

The undermentioned candidates have been debarred from appearing at any University Examination prior to the examination noted against their names, as they were found guilty of using unfair-means at the Supplementary Intermediate and Bachelor Examination of 1957 in Arts, Science, Commerce of 1957.

Sl. No.	Name of Centre and College.	Name of Examinations and Roll Nos. of the candidate.	Registration No.	Name of the candidate	Punishment
1	Bhagalpur Murarka College, Sultanganj.	I.A., Bhag.—205	4083-56	Banarsi Prasad Singh	Debarred from appearing at any University Examination prior to the Supplementary Examination of 1959.

2	T. N. J. College, Bhagalpur.	B.Sc., Bhag.—6	12805-53	Bishnudeo Narayan Singh	Debarred from appearing at any University Examination prior to the Supplementary Examination of 1959.
3	Biharsharif Nalanda College	I.A., Nal.—72	20607-55	Harbansh Prasad Singh	Debarred from appearing at any University Examination prior to the Supplementary Examination of 1959.
4	Biharsharif A. N. S. College, Barh.	I.A., Nal.—175	12116-56	Ramji Singh	Debarred from appearing at any University Examination prior to the Supplementary Examination of 1959.
5	Begusarai, G. D. College.	I.Sc., Beg.—11	153-56	Mahendra Prasad Chaudhuri	Debarred from appearing at any University Examination prior to the Supplementary Examination of 1959.
6	Bettiah, M. J. K. College.	I.A., Bet.—18	14738-56	Ripusudan Prasad Varma	Debarred from appearing at any University Examination prior to the Annual Examination of 1959.
7	Darbhanga, C. M. College.	I.A., Dar.—160	6601-53	Akhtar Hussain Khan	Debarred from appearing at any University Examination prior to the Annual Examination of 1959.
8	Do.	B.Com., Dar.—42	10248-51	Md. Mustaque	Debarred from appearing at any University Examination prior to the Supplementary Examination of 1959.
9	Gaya College, Gaya.	I.A., Gay.—6	16216-55	M. Mahmood Ahmad Mallick	Debarred from appearing at any University Examination prior to the Supplementary Examination of 1958.
10	Do.	I.Sc., Gay.—8	16651-55	Krishna Nandan Pd. Sinha	Debarred from appearing at any University Examination prior to the Supplementary Examination of 1958.
11	Do.	I.Com., Gay.—2	16631-55	Abhimanyu Kumar Bhadani	Debarred from appearing at any University Examination prior to the Supplementary Examination of 1959.
12	Do.	B.Com., Gay.—47	9800-51	Haider Raza	Debarred from appearing at any University Examination prior to the Annual Examination of 1959.
13	Giridih College, Giridih.	I.Sc., Giri.—28	7577-56	Lakhandeo Singh	Debarred from appearing at any University Examination prior to the Supplementary Examination of 1959.
14	Hazaribagh, St. Columba's College.	I.Sc., Haz.—62	6873-55	Shiv Nandan Prasad	Debarred from appearing at any University Examination prior to the Supplementary Examination of 1959.
15	Jharia, R. S. P. College.	I.A., Jhar.—14	14706-55	Hargovind Lall Barnwal	Debarred from appearing at any University Examination prior to the Supplementary Examination of 1959.
16	Monghyr, R. D. and D. J. College.	I.A., Mong.—6	2014-56	Nand Kishore Mandal	Debarred from appearing at any University Examination prior to the Annual Examination of 1959.

Sl. No.	Name of Centre and College.	Name of Examinations and Roll Nos. of the candidate.	Registration No.	Name of the candidate	Punishment
17	Monghyr, R. D. add D. J College.	I.A., Mong.—16	15283-50	Maheshwar Mall	Debarred from appearing at any University Examination prior to the Supplementary Examination of 1959.
18	Monghyr, K. K. M. College, Jamui.	I.A., Mong.—127	8818-56	Harinandan Singh	Debarred from appearing at any University Examination prior to the Annual Examination of 1959.
19	Monghyr, R. D. and D. J. College.	I.Sc., Mong.—74	8328-55	Shambhu Sharan Pd.	Debarred from appearing at any University Examination prior to the Annual Examination of 1959.
20	Muzaffarpur, L. S. College.	I.A., Muz.—29	4517-56	Bijoy Narayan Singh	Debarred from appearing at any University Examination prior to the Supplementary Examination of 1959.
21	Do.	B.A., Muz.—1	5146-54	Abinash Chandra Khare	Debarred from appearing at any University Examination prior to the Supplementary Examination of 1959.
22	Patna, College of Commerce.	I.Com., Pat.—52	9891-56	Bindeshwari Prasad Singh	Debarred from appearing at any University Examination prior to the Annual Examination of 1959.
23	Do.	I.Com., Pat.—112	10167-56	Saryu Prasad	Debarred from appearing at any University Examination prior to the Annual Examination of 1960.
24	Do.	I.Com., Pat.—113	10012-56	Surya Kumar Singh	Debarred from appearing at any University Examination prior to the Annual Examination of 1959.
25	Patna College of Commerce.	I.Com., Pat.—199	9115-56	Ram Gopal Jaiswal	Debarred from appearing at any University Examination prior to the Supplementary Examination of 1959.
26	Do.	I.Com., Pat.—142	15387-55	Deonath Prasad	Debarred from appearing at any University Examination prior to the Supplementary Examination of 1959.
27	Do.	I.Com., Pat.—215	10109-56	Bharat Jha	Debarred from appearing at any University Examination prior to the Supplementary Examination of 1959.
28	Do. (R. M. R. Institute).	I.A., Pat.—144	7757-56	Sachchitanand Prasad	Debarred from appearing at any University Examination prior to the Supplementary Examination of 1959.
29	Rajendra College Chapra.	I.A., Chap.—46	13324-56	Raghunath Prasad	Debarred from appearing at any University Examination prior to the Supplementary Examination of 1959. Also deemed to be expelled from Supplementary I.A. Examination of 1957.

A. NARAYAN,
Controller of Examinations, BIHAR UNIVERSITY, PATN

UNIVERSITY OF MYSORE

No. Ex.9-180/57-58.

Office of the University of Mysore,
Mysore, the 3rd February, 1958.

NOTIFICATION

Reference—This Office Notification, dated the 1st November, 1957 and 21st November, 1957

Pursuant to the resolution of the University Syndicate passed at the meeting held on the 26th/27th October, 1957, the following candidates for the University Examinations of September, 1957 who were found guilty of Mal Practice are penalised as follows :—

Examination	Registration	Name and Address	Penalty imposed
Intermediate in Science	2964	C. N. Krishna Murthy, C/o. Sri M. Narayanaswamy, Line Inspector, Electrical Department, No. 28, 1st Main Road, Palace Guttahalli, Bangalore—3.	(1) Loses the whole examination which he has appeared for September, 1957 Examination. (2) He is debarred from sitting the following examination.
B.Sc.	245	M. R. Muni Rao, S/o. Sri M. Rama Rao, Petti Shop-keeper, K. 145, Lalbagh Fort Road, Doddamavalli, Bangalore City.	(1) Loses the whole examination which he has appeared for September, 1957, Examination. (2) He is debarred from sitting the following examination.
B.E. Final (Mechanical Engineering).	1332	D. S. Anantha Rao, C/o. Sri D. Subba Rao, Timber Merchant, No. 76, Diagonal Road, Visweswarapuram Bangalore—4.	(1) Loses the whole examination which he has appeared for September, 1957, examination. (2) He is debarred from sitting the following examination.
B.Ed. Final (Mechanical Engineering).	1347	P. D. Thirunakaras, S/o. Sri P. Doreswamy Mudaliar, Retired Mechanic, Auto-Telephones, No. 37, 22nd Cross, Cubbonpet, Bangalore City.	(1) Loses the whole examination which he has appeared for September, 1957 examinations (2) He is debarred from sitting the following examination.

By order,
D. JAVARE GOWDA,
Controller of Examinations.

MAULANA ABUL KALAM AZAD

Born : 1888 Died : 1958

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SCIENTIFIC FOUNDATIONS OF ASTROLOGY

Dr. Sampurnanand

Chief Minister, Uttar Pradesh

While thanking you cordially for permitting me to speak this evening on a subject so dear to my heart, I also wish to take the rather unusual step of conveying to you my sincere congratulations. In arranging this lecture, you have given expression to that spirit of fairness and tolerance which should animate every seeker after truth and the scientist is, par excellence, a seeker after truth. You are not committing yourself to anything by hearing me. While it may be a sound dictum to begin by doubting everything, it follows as a corollary what you should hear everything. To condemn anything without listening to what its exponents have to say for it is to give evidence of a closed mind which is incapable of expansion and reception of the truth, and which functions within a prejudiced framework. Astrology has received recognition from some of the greatest intellects in the past and continues to enjoy that position even today. It would merely betray a littleness of mind to brush it aside as superstition.

It is amusing and, at the same time, pathetic to see those who are the loudest in their denunciation of astrology, asking how it can be scientifically true. They want to know how the stars can influence human destiny. They desire to understand the theoretical foundations of the science. The desire to reduce empirical material to a system of laws is natural and legitimate, but there are certain preceding conditions which must be recognised. If things like apples, stones and human bodies, not to speak of planets, suns and galaxies, did not possess the tendency to fall, to use a rather unscientific but certainly expressive term, there would be no point in discussing the law of gravitation. In fact, nobody would have thought of such a law if such falls had not been noticed. If certain phenomena do not exist at all, why bother to discuss their rationale? The search for an explanation of astrological phenomena can come only after the existence of such phenomena has first been admitted; otherwise the labour spent on such a task would be more worthless than the labour lost in a wild hunt after the proverbial will-o'-the-wisp. Any number of hypothetical phenomena can be thought up but, I am sure, no serious scientist would dovote his time and energy to trying to explain them. I must, therefore, to begin with, state categorically that those who do not accept the truth of what the astrologer designates as facts have no right to ask him to explain them in scientific terms. I shall proceed this evening on the assumption that those who are here have had some experiences which incline them to accept the factual claims of astrologers. They have probably come across confirmations of astrological predictions which cannot be explained away as mere coincidences. Calling every unusual or unpalatable event an accident or a coincidence is unworthy of a man of science; it is as unhelpful in a study of reality as that credulity which is prepared to accept everything as indubitable fact. If there is anyone here who has never had such an experience, I am afraid, my words will have no meaning for him. I would suggest to him to go to some astrologer, professional or amateur, get his predictions and see if they turn out to be true. As a man of science he will, I am sure, give enough trials before feeling himself on strong enough ground to denounce the whole thing.

Before I start let me make it clear that astrology is hardly a correct name. This science has very little to do with the stars. Not that the latter can be ignored; what I am saying is that they do not come directly into the picture. The astrologer studies the movements of the planets. The Earth is a planet, of course, and its movements should be studied along with those of the other planets. But it is clear that the apparent movement of the Sun relative to the Earth will be an index to the real movement of the Earth relative to the Sun. Astrologers down the ages have found it convenient to study the movements of the Sun even while admitting the truth of the heliocentric theory of the solar system in the form in which it is accepted today. This form, as you know, is not that the Earth moves round the Sun but that the Earth and the Sun are like two balls moving round their common centre of gravity which, because of the greater mass of the Sun, lies within the body of the latter. It is for this reason that the Earth seems to move round the Sun. For this reason and for the sake of convenience the Sun is included among the planets, the *grahas*, as we call them in Hindu astrology. When the layman or even the professional astrologer speaks of the star influencing human destiny, he is, in actual fact, referring to the planets. The stars find a place in this canvas in this way that the motion of a planet in its orbit round the Sun is always defined by its position at a particular moment against the background of the stars. When, for instance, we speak of the Sun being in *Singh rashi* (Leo) we mean that it is in that part of the sky which has, as its background, that group of stars which make up the constellation Leo.

The Moon, it may also be noted, is counted among the planets although it is, speaking astronomically, a satellite of the Earth, *i.e.*, one of the two members of the Earth-Moon axis.

Besides the planets which are normally visible to the naked eye, there are Uranus, Neptune and Pluto. There may be one or more planets beyond Pluto just as some people think that there is a planet between the Sun and Mercury. It has even received a name—Vulcan. There is also the large asteroid belt between Jupiter and Saturn. These bodies, the asteroids cumulatively acting, more or less, like a single planet, are also bound to have the same relation, whatever it may be, to human affairs as the visible planets. Hindu astronomy, so far, takes no note of them, but astrologers in the West have begun to make a study of their behaviour. It is too early yet to be sure about the results of such a study. These planets take very long periods of time to complete a single revolution round the Sun. The asteroidal year is shorter than that of Saturn but they are such small bodies that it is difficult to study their effects and, in any case, if they have any effect at all, it must be comparatively negligible. It is necessary, however, in India also to prepare *Janmapatris*, nativities, including the position of the extra Saturnine planets and study the results.

Our *Janmapatris* also include *Rahu* and *Ketu* among the planets. We should remember that these are not material bodies at all but geometrical points. They are the nodes or points of intersection of the planes of the Earth's orbit round the Sun and the Moon's orbit round the Earth. Because of well-known and simple astronomical facts these points change their position and seem to move among the zodiacal signs, the twelve *rashis*, there being always a difference of six *rashis* of 180° between them. They are indicative of the relative positions of the Sun, the Earth and the Moon and are useful in calculating eclipses. Without expressing any opinion about the truth or otherwise of the Pauranic story about the manner in which a single *Asura* got cut up into two parts, a headless trunk and a trunkless head called Rahu and Ketu respectively, it may be stated that our astronomers had never any doubt about the actual cause of eclipses. Their theory was exactly the same as is held today.

This, I believe, is a necessary preliminary to an examination of whatever scientific basis astrology may have. The astrologer has before him the *Janmapatri* and proceeds to read the *Phaladesh* the predictions, as one may call them, as revealed by it. The *Janmapatri*, as we, see, is merely a map of the solar system at the time of birth. By itself the map is rather incomplete. It gives, for instance, the information that at the time of birth a particular planet, say, Mars, was in *Kanya Rashi* (*Virgo*) but it does not tell at what exact point, how many degrees, minutes and seconds from the first point of *Virgo*, the planet actually was. This information is given by the other tables which accompany a really well prepared *Janmapatri*. If this information is not supplied, the exact time, date and place must be indicated, so that the conscientious astrologer may work out all those details for himself. If this is not done, the *Phaladesh* will be very vague in nature, assuming that Astrology in itself is an accurate science.

Before coming to my subject proper, I might incidentally stress the great importance of a sturdy commonsense and an all-round wide-awakeness in the make-up of an astrologer Many examples of this could be given. A dog and a human being could have happened to be born in exactly the same conditions and the cast of their nativity would presumably be the same. No adherence to a mere rule of thumb can possibly help the astrologer in such a case, I do not know if it is possible to tell a man's horoscope from that of an animal, but it is only commonsense that can help the astrologer in making sensible predictions. I do not know how many people here have read Louis de Wohl's interesting book "The Stars of War and Peace". As you might be aware Louis de Wohl was the unofficial Astrologer of the British Government during the Second World War. Astrology not being an officially recognized department of the Government, he was put in charge of what was called the Psychological Research Bureau and was attached to the War Office with the rank of Captain. In the first place, he was appointed merely to inform the British Government of the predictions which Hitler's astrologers would probably be making and thus to forestall Hitler's military movements. In this work he was eminently successful. A large number of Hitler's movements were anticipated and checkmated. As an example of the use of commonsense may be mentioned the following :

Shortly before the battle of El Alamein, De Wohl was given two birth data without the hour and the place and asked if he could tell which of the two men to whom they related would win. Obviously, it was not possible to prepare complete horoscopes from the insufficient data supplied, but certain rough and ready tables were prepared from which he came to the conclusion that the man born on the 17th of November would win. He also said that this man must be an Englishman. This latter deduction was made in this way. De Wohl knew that the horoscopes of the King of England and of Mr. Churchill all showed very good aspects in a short time; while the corresponding prospects were gloomy for Hitler. He, therefore, guessed that the winning man must be an Englishman. He was right. This man was General Montgomery. But there is one curious part of this story. While the data revealed that Montgomery would win, they also revealed that the other man, whoever he was, would not lose. This was surprising and no one could explain this remarkable prediction. The explanation came after the battle. This person, by the way, was the German General Rommel. Hitler's astrologers had also predicted that the British General would win. Therefore, to save Rommel from disgrace, Hitler recalled him to Germany two or three days before the actual battle. Thus, while Montgomery won, Rommel was not defeated.

The first scientific foundation of Astrology is astronomy. Without this the whole edifice of astrology would collapse in a moment. The astrologer takes the ephemeris prepared by the astronomer for granted. He does not check the movements of the planets by personal observation. He accepts the information given by the astronomer. The slightest mistake in the determination of planetary positions would vitiate the subsequent astrological calculations. Attention may be drawn to a very important controversy that is going on at present in the field of Indian Astrology. The controversy is as to whether the *Sāyana* or the *Nirayana* system of computations should be used. In simple language the matter may be stated thus. Owing to the phenomenon called the " precession of the equinoxes ", the Sun reaches a particular point in the sky every year a little earlier than in the previous year. There was a time when the year began on the day of the Vernal Equinox and it was on that day that the Sun entered Mesh (Aries). There has arisen in the course of the last 1300 years a difference nearly of three weeks. The Hindu astronomers are aware of this fact but Hindu Astrology does not take note of it. Officially, for instrnce, the Vernal Equinox is fixed on the date on which it used to fall 1300 years ago, although now, as a matter of fact, it comes about 21 days earlier. To give an example, probably familiar to everyone here, we celebrate the *Makar Sankranti* on the 13th or 14th of January every year, although the actual *Sankranti*, namely, the passage of the Sun from Sagittarius to Capricorn (*Dhana* to *Makar*), takes place on the 25th of December preceding. It is extremely doubtful, to say the least, if calculations based on data which do not correspond to natural events can give correct results. Western astrologers, on the other hand, follow the data based on observations. Hindu astrologers, however, have evolved a theory justifying their procedure. Assuming that Astrology is a science, it would be interesting to see which of these systems gives results in accordance with actual events.

Another science on which the astrologer depends is mathematics. His work has been considerably simplified and advanced towards greater accuracy by the application of the calculus and logarithmic tables.

At this point perhaps it would be desirable to clear up a matter of terminology which is the source of much confusion of thought and provides material for cheap ridicule to those who refuse to think seriously about the subject. It is generally said by professional astrologers, and following them by laymen, that the stars or planets, as we should rather say, influence or cause the happening of certain events on the Earth, whether the event is of the nature of a natural phenomenon like rainfall, or an earthquake, or an incident in the life of a man or a community. There is nothing particularly wrong with the world 'influence', but somehow people seem to read a deeper meaning into it than is usual, when it is used in Astrology. There is, in fact, great need for clarity of thought as to what constitutes an astrological phenomenon. The writer in the book which I have already referred to above says that the warming of the Earth by the Sun is an astrological phenomenon; so, one may say, is the raising of tides by the Moon when it occupies certain positions in the sky relative to the Earth. Of a similar nature are phenomena like the aggravation of certain diseases, Elephantiasis for example, in coordination with certain phases of the Moon, the stimulation of a depressing mental condition in certain meteorological conditions and the peculiar behaviour noticed in certain birds and animals preceding a volcanic eruption.

It is as correct to speak of a planet influencing events in the lives of men as to speak of the barometer influencing the weather. The weathercock gives you a warning about the kind of weather which one may expect within the next few days, but it would be thoroughly unscientific to say that it causes that particular kind of weather. At the same time, I do not suggest that all words like 'cause' or 'influence' should be completely ruled out, provided that we make sure that we use them strictly in the sense in which they are used in the physical sciences. If a position of the Moon relative to the Earth and the Sun results in a solar eclipse, which in its turn is found to lead to disturbances in the functioning of delicate electro-magnetic instruments and is accompanied by certain nervous and psychic disturbances, then we might justifiably say that that particular position of the Moon is the cause of those electrical disturbances on the one hand and those nervous and psychic disturbances on the other hand. Let me give another example. We know that above a certain height from the surface and gaseous envelope which surrounds the Earth is called the ionosphere because it consists of a large percentage of ionised particles of matter. Ionisation and recombination, no doubt accompanied by discharges of energy, are constantly going on there because of the bombardment by interstellar, and more particularly solar, radiation. In the course of millennia, nature has been able to strike some kind of a balance. As we know, the ionosphere is responsible for what is called radio weather. In other words, it is responsible for the disturbances in our radios and other instruments operating within the same range of radiated energy. Indirectly it also affects the weather in general. A sudden and large-scale increase or decrease in the tempo of ionisation would most certainly affect the forces under which vegetable and animal life is possible on the Earth. In a paper read before the All-India Police Wireless Officers' Conference, Sri C. P. Joshi, the U.P. State Radio Officer, has collected useful information about "periodic and systematic variations in the ionosphere" and shows how phenomena like eclipses and tides have quite a marked influence in this region of gas. The question is still being studied but we can see easily that the inter-relation, if it is established, will be of an astrological nature. An eclipse implies certain relative positions of the Sun, the Earth, and the Moon. A study of these positions should give an indication of ionospheric changes which in turn would indicate physiological and psychological changes.

Important though all this is, it is only a prelude to astrology proper. According to Indian custom, every science is attributed to the Rishis. In a way, perhaps this is right, but this assumption does not help us at all; on the other hand, it hampers progress because any attempt at reform becomes almost an act of sacrilege. So far as I can see, Astrology, like any other branch of science, claims to be based on observation. It is, therefore, essentially of a statistical nature.

The tendency of the untutored mind is to work on the principle, '*post hoc ergo propter hoc*'—'after this, therefore on account of this'. If a certain event is found to have been preceded by another event, it must have been caused by the former. If a death in the family has occurred just after a meteoric shower, the meteors must have been the cause of the death. But men must have noticed that such a sequence did not always happen. All deaths were not preceded by meteoric showers and meteoric showers were not always followed by death in the family. Associations are, therefore, perceived to be accidental. But it may be that other phenomena do happen to occur in groups, so to say. If the number of observed cases of this kind is fairly large, covering a large number of instances and spread over a number of centuries, it would be difficult not to come to the conclusion that they are connected in some manner, the sequence being the effect and the precedent the cause. If a certain type of event is observed to happen for a sufficient number of times when a particular planet occupies a certain place in the sky, the conclusion is obvious that the two are connected with each other in some way. Among the planets, Mercury and Venus pass from one zodiacal sign to another very rapidly. It would probably be difficult easily to link up terrestrial happenings with their positions, but planets like Jupiter and Saturn occupy one sign for a fairly long time—one year in the first and two years and a half in the second place. This gives ample time for observation and I have an idea that observations in ancient times must have been attracted by these planets first. I shall give an example of a remarkable set of what might be called parallelism between earthly events and certain astronomical phenomena. My attention was first drawn to this subject by a small book by Dr. Gore of the College of Science, Raipur, in which he has taken up the task of showing how modern researches in Physics and other sciences lend support to Astrology. As he says, the ruling zodiacal sign for India is *Makar* (Capricorn). Exactly 180° from Capricorn comes *Kark* (Cancer). Saturn happened to be in *Kark* from June, 1946, to July, 1948. Three important events took place in India during this period, namely, the Independence of India, the birth of Pakistan and the murder of Mahatma Gandhi. Calculating backward from this point, Dr. Gore has shown that a number of important events have been occurring in India at 30-year intervals, namely, at the period when Saturn was in Cancer. He followed this up for a century. I followed it up for four centuries and any one who chooses to do so can still go further back. It seems that the presence of Saturn in Cancer somehow coincides with an important event in Indian history. I shall name a few of these events here—Montagu's Declaration in Parliament (1917), Birth of the Indian National Congress (1887), the First War of Independence (1857), First Mysore War (1767), Death of Aurangzeb (1707), Second Battle of Panipat (1557), First Battle of Panipat (1527), Vasco da Gama's voyage to India (1497). Two things have to be noted in this connection. All the events which I have gathered are not of equal importance and I find a blank for 1647. I shall give the reason a little later.

While pursuing this subject, another curious set of events came to my notice. They follow each other at intervals of 12 years. It should be remembered that Jupiter's period of revolution round the Sun is 12 years. I started with 1942 when Jupiter was in *Meen* (Pisces). 1942 was, of course, the year of the Quit India Movement. I followed the series for about two centuries. Some of the events for this period may be mentioned by way of example—the Congress Declaration of Complete Independence of India at Lahore Session and the Salt *Satyagraha* (1930), Partition of Bengal (1906), End of the East India Company and assumption of power by the British Crown (1858), Establishment of the Office of the Governor-General in India and appointment of Warren Hastings (1774), Rise of Hyder Ali (1762). Here, again, I may point out that no important events, or events of very minor importance, can be found to correspond to some of the years. It may also be mentioned that in both series I have given what might be called the peak year. As the periods of revolution of Saturn and Jupiter are not actually exactly 30 years or 12 years, the actual time when they would be in Cancer and Pisces respectively would be somewhere near the date I have given, falling a few month either on this side or the other. Students of

Astrology know, of course, that in Cancer, Saturn is 180° from Capricorn of which he is the ruler; while Jupiter is the ruler of Pisces. Asked to explain why all the events corresponding to these years are not of equal importance and why some years seem to draw a blank, the astrologer will give the reply, and I am sure every one will agree that it is a very sensible reply, that, after all, Jupiter or Saturn is not the only planet in the Solar System. In studying events the positions of other planets must also be studied simultaneously.

This is an example of the kind of observation which would lead to astrological predictions. A person who has followed up these sets of parallel events over considerable periods and found them to be correct might be justified in predicting that, keeping in mind Jupiter alone, important events would be likely to happen in near about 1954, 1966, 1978 and so on. Similarly, keeping in mind Saturn alone, another set of important events would be likely to happen in 1977, 2007, 2037 and so on. I may also, incidentally, point out that if the two series happen to intersect each other at a certain point, we should expect something of very great importance thereabout. I shall give one or two examples of this. The period 1857 to 1858 falls both in the Saturn and the Jupiter series and we know how important it was. It seems that the period 1977-78 will also be common to both the series. It might witness the happening of a very important event in our history. I should like to draw attention at this point to two interesting predictions by De Wohl to whom I have referred earlier. He observed—by the way, I may point out that the book was published in 1952—that Saturn and Uranus would be occupying the same positions relative to each other in November, 1952, which they occupied in July, 1945, when the first Atom Bomb was exploded. He predicted that something of a similar nature should happen in November, 1952. It is interesting to note that the first Hydrogen Bomb was exploded on November 1, 1952. Again, he says that the positions of Saturn and Uranus are such that the period from October, 1963, to July, 1964, may see the setting of the sparks to the biggest war in all history. It is curious that, judging from the position of Jupiter, I have also arrived at the conclusion that 1964 may be a very important year for India.

I have drawn my examples from events affecting the lives of a nation because it is easier to check the accuracy or otherwise of predictions made in this field. But, very often, the individual is more interested in his own life and in the lives of those near and dear to him than in world events. Obviously, the method of observation would be the same in both cases. But an immensely larger number of individual lives would have to be studied. Equally immense would be the number of permutations and combinations of the positions occupied by the various planets.

I have no doubt that fundamentally this method of observation could have been the only basis on which the edifice of Astrology has been built up. Presumably, led by curiosity, whetted at times by interesting confirmations, observers in different countries carried on their researches over long periods of time. The results were noted down and compared. Gradually a system must have evolved out of the chaotic mass of observed data, much of which must have had to be rejected. Quite obviously, the procedure outlined above will be a long one but it would be idle to expect short-cuts to reliable formalae in branches of knowledge like Astrology where results have to be deduced on the basis of information subject to statistical analysis. Still it is possible to expedite matters to some extent and, I am sure, this method must have been used extensively in the past. It is calculated to yield very satisfactory results. I refer to the comparative method of study. A number of nativities belonging to persons in the same or allied walks of life can be compared with a view to finding out their common elements, if any. If after weeding out all accidentals it is found that certain planets occupy identical houses in these horoscopes there would be a very strong ground for presuming inter-relation between these planetary positions and the native's career. One would be justified in assuming that a child with a similar horoscope would have a career more or less of the same kind.

Careful study and further research would show that things are not so simple as this. All possible influences will have to be studied. It may be that there is something in the horoscope that has a tendency to neutralise the effect of the elements on which one has been counting for one's predictions. Astrology is a growing science and he would be a rash man who would venture to say that we have all the material necessary to make correct predictions. Some factor which one has failed to notice or to give sufficient importance may completely upset all one's calculations. I shall give one very interesting example. We all remember the earthquake that shook Bihar on January 15,1934, and the great havoc caused by it. This earthquake was predicted in very clear terms in most *Panchangas* for the year. On that date the planets Mars, Mercury, Venus, Saturn and the Sun were in Makar (Capricorn). The Moon was to enter that house about 2.45 in the afternoon. It was predicted that some great catastrophe would happen at that time. As you know, the earthquake actually started at this very time. As the Vishwa Panchang published from the Hindu University said, there was probability of some Provinces suffering from an earthquake. It was only necessary to combine the two statements. It will require a good deal of courage, shall I say, to call this a pure coincidence but it is a fact that the equally severe earthquake which shook Baluchistan a few years later was not anticipated. Quite obviously, some important factor had not been noticed or given the importance it deserved.

A question of great importance is sometimes asked in connection with astrological predictions. How far is it possible to be exact in respect of time? Bad astrologers try to cover their inefficiency by indulging in vague generalizations or making predictions which cover very large periods of time. As Charles Carter says in "Symbolic Directions in Modern Astrology", 'it has always seemed to be of great importance that astrologers should be able to predict as exactly to time as possible when directions—and especially when dangerous directions—are likely to operate'. There is a reason why the words' as exactly to time as possible' have been used. In the first place, it is not always possible for everyone to have at his command a delicate chronometer accurately timed to standard astrological clock. Even small differences will affect the results of mathematical calculations and vitiate results. In the second place, as Carter himself observes, 'one cannot possibly watch against perils that may occur at any period during a year or more, or even during a month, unless, indeed, one has nothing more pressing to do in life than to stand as it were on guard. Even then the strain of doing so would, in many cases, be much more hurtful than the actual direction'. Life would become a perpetual hunt for foretelling and predictions if one tried to go into such details or sought to regulate the normal routine of life under the guidance of the astrologer. This would be one of the surest methods of proving that Astrology is a false guide in the affairs of men. I have purposely refrained from discussing the laws which astrologers have professed to have discovered. They are complicated. It is very difficult to interpret them. It is easy to prepare a horoscope. It is difficult to interpret it. The position of one planet in any particular place may indicate one thing. The presence of another planet in the same house may indicate the exact opposite. The astrologer has to note down the indications given by these and other planets and then strike a mean. There are formulae which help him to do so to some extent, but he must, to a large extent, depend upon his own experience and commonsense. There are several branches of Astrology. There is, for instance, the astrology of disease and psychological astrology. There is an important branch of this subject dealing with meteorological phenomena of which the monsoon is the most important factor, so far as India is concerned, and there is a new and growing body of astrological knowledge having a bearing upon economic crises. It was formerly comparatively easy for the astrologer to make a prediction about any country by studying the horoscopes of the royal family, particularly that of the ruler. Now this is no longer possible because even in countries where the nonarchical form of government is still continuing, the king is little more than a titular sovereign. Astrology in relation to national life is, therefore, another branch of the subject which is gradually taking shape.

As I have stated a little earlier, it is not my intention to discuss the laws and rules claimed to have been discovered by astrologers, in the first place, because what I know about Astrology amounts to less than nothing, and in the second, the deduction of tangible results from these rules is such a difficult process that an amateurish approach to the subject may well serve to discredit the science. Still, books by well-known astrologers sometimes contain simple directions which may well be pursued with interest even by the amateur. The results achieved will show that the labour spent on the work has not been lost. One such book which I can recommend is "Symbolic Directions in Modern Astrology" by C.V.O. Carter. It gives interesting instructions about the reading of horoscopes and making calculations about things like longevity even death. There are references to the horoscopes of well-known men. Quite obviously, this book makes use of the technique employed by western astrologers. "Studies in Jaimini Astrology" by B. V. Raman gives equally interesting instructions according to the methods of Hindu Astrology.

I should like to conclude by dealing briefly with what I consider to be the philosophical explanation for the facts of Astrology, although this is, perhaps, not strictly germane to the subject I am discussing this evening. Assuming that Astrology is a science capable of objective verification, would not its truth imply man's absolute subordination to something that is predestined? That 'something' may be good or bad, pleasant or unpleasant, but there can be no tampering with it. Hindu Astrology does not accept this position. In the first place, it says that what is preordained is not fate or *kismat* in the sense of the fiat of an absolute God who is कर्तुम् अकर्तुम् अन्यथा कर्तुम्

समर्थः *i.e.*, who has the power to do things, not to do things, to undo things, in other words, to act in any way He chooses. Indian philosophy knows no such God. A man's destiny is forged by his *karma*, the effect of his actions in the past. It is universally admitted that the bodily and mental make-up of an individual is influenced by his environment, subjective and objective, pre-natal and post-natal, but Indian philosophy goes a step further and says that it is a man's *karma* which determines which particular set of influences, what particular environment he shall be subjected to. But whether it is God'e will or his own *karma*, the individual would be entirely a creature bound hand and foot. This is only half the story. The nature of the spirit is essentially the same as the nature of God-*Sat*, *Chit* and *Anand*. True, this spirit is enmeshed in *avidya*, nescience, but it does not reconcile itself to this conditions. At every moment there is the sub-conscious, and, at the higher levels of intellectual and spiritual development, the conscious, effort at self-realisation, the effort to break the bonds. This effort is what western philosophy calls free will. There is thus a perpetual tug-of-war between free will and destiny and our actions at any moment are a resultant of these two forces. In the ordinary man, free will is not very strong. His actions in life will, therefore, correspond, to a very large extent, to the forecast given by his horoscope. But, in the case of persons of greater intellectual and spiritual development, there will be greater variation, even though the general pattern will remain the same as indicated by the horoscope.

There is another and, perhaps, a no less important question to which an answer may well be sought. Using the word 'influence' in as wide a sense as we choose, how is it that the planets influence human action? I can only explain this phenomenon in this way. Using Vedic terms, the whole universe is governed by *Rit* and *Satya* which are really two aspects of one reality. These two words may roughly be translated as the law of nature and the law of morality, respectively. As an essential consequence of this, there is an ever-present parallelism between natural phenomena and those phenomena which constitute the sum-total of the experience of sentient beings. A change in one is accompanied by a change in the other. We find it easy to study external phenomena and causation appears as a simpler hypothesis than simultaneity. Hence, the external phenomenon is described as the cause of the experiential one. This is purely a procedure based on convenience. Actually all that we are entitled to say is that the presence of a particular phenomenon in one series is a strong indicative of the existence of a corresponding phenomenon in the other series. This is the only explanation which I can give.

Whether, as a matter of fact, such parallelism exists or not is a subject for continuous research and study. Astrology, even if it is a science, cannot claim to be perfect. It may be that evolution is the result of the clash of mutually exclusive and independent forces, and is proceeding at random along a tortuous path leading nowhere in particular. It may, on the other hand, be that the Universe is the result of the unfoldment of one principle, transcending and at the same time, permeating everything, manifesting itself in a hundred forms and proceeding in an ordered line of march towards a goal which is the fruition and fulfilment of its Nature. Perhaps the cosmos is a chance product of what is essentially chaos or there is

One God who ever lives and loves,
One God, one hand, one element
And one far off divine event
To which the whole creation moves.

The solution to this mystery lies in the territory where Science meets philosophy. It is needless to say that Astrology can have no meaning in a universe governed by Chance.

I have not made any attempt to convince you of the truth of Astrology. My endeavour has only been to show that it is a subject as worthy of study and investigation as any other. We can, if we choose, laugh it away but thereby we shall only be denying ourselves the use of what might turn out to be a very efficient instrument for human well-being. Let me give an example. We are spending huge sums of money on meteorological experiments. The money is being well spent but why not see if the methods given for weather forecasts in books on Astrology also give the right results? They may be entirely wrong. On the other hand, it is just possible that they are also based on observations carried out, perhaps, for thousands of years. It would, therefore, be childish to refuse to give them a trial. Astrology, like Medicine, is a body of knowledge which deals with verifiable phenomena. It is, therefore, the easiest thing in the world to test its truth. Nothing could be more unscientific than to discard it merely on the basis of some kind of *a priori* reasoning. Even if astrologers failed completely to give a satisfactory explanation of the laws of Astrology, it cannot be treated as a pseudo-science so long as its predictions correspond with our actual experience. After all, we have accepted the law of gravitation without being able to explain the fact of gravitation.

LAST GENERAL ELECTION IN WEST BENGAL (1957)

ASSEMBLY ELECTION *

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An attempt is made here to review and assess the Second General Election of this problem State of India. And I also know my limitation in the matter since correct and authentic data which are so very necessary for our analysis are not yet sufficiently available. I also consider that for proper assessment of the election results a general review of the political and economic background of the state should be placed at the very outset.

It may be recalled that West Bengal compared to any other state had to experience during the post-war and post-independence period more difficult and peculiar problems which have seriously affected our economy, administration and even the very structure of our society. And it is also an admitted fact that there is wide-spread frustration among all sections of the people, particularly in the intelligentia, that proper justice has not been meted out to this unfortunate state by the authorities in power.

It may further be recalled that during these five years in between the two general Elections we witnessed stormy agitation and big movements against the ruling power. Particular mention may be made of the 'Tramfare resistance movement', mammoth strike by the West Bengal Secondary teachers, agitation for proper rehabilitation of refugees, movement for lowering of prices of Food and Essential commodities, leading trade Union movements in all important industries and particularly the General strike of Tea Garden and Coal mines, and lastly the historic struggle against Roy-Sinha proposal of merger of West Bengal and Bihar. The anti-marger issue was heightened by the two bye-elections, one relating to state legislature and the other parliamentary and in both these elections the ruling party was heavily defeated. And we also remember that Dr. Roy, one of the chief sponsors of the merger proposal while accepting the results as the verdict of the people against merger, dropped the proposal. The agitations were also carried out inside the legislature where the ruling party had to face a strong opposition.

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* This article was read in the last 20th Conference of the Indian Political Science Association held at Poona in December, 1957.

Under these circumstances the slogan of an alternative Government raised by the left parties roused nation-wide excitement and keen interest in the General election. But as we know, the results belied the expectation of the left parties, since instead of a left ministry a strong opposition was created in the legislature. The ruling Congress Party was again voted to the power, of course, with a reduced majority compared to the First General Election.

We may also state that the Second General Election although bears certain similarity of an all-India character, has its own peculiar features which are of great interest to the students of political science. With these remarks let us now proceed to the discussion proper.

PROCEDURE OF DISCUSSION

For making our review precise and objective the discussion has been categorised under the following heads :—

1. *A brief survey of the State*—Population, Electorate, Constituencies and Seats.
2. *Candidates participating in the Election*—Their number, the name of the parties, alliance if any, the number of independents.
3. *An examination into the Election Manifestos, and Programmes.*
4. *Analysis of Election Results*—Table I (on the basis of Candidates, Seats and votes obtained making comparison with 1952).
5. *Results by Districts and Parties*—Table II.
6. *Analysis on the basis of Urban-rural voting*—Table III.
7. *Calcutta Results.*
8. *Concluding observations.*

A BRIEF SURVEY OF THE STATE

During the Second General Election, West Bengal was comprised of 16 districts (district of Purulia added after the States Reorganization) with a population of 2,63,01,992 and a total land area covering in all 33,945 sq. miles.

In 1957 there were 252 elective seats in the State's legislature—having an increase of 14 seats compared to that of 1952 (in 1952 there were 238 seats). These seats were again distributed among

195 electoral constituencies comprising an electorate of 1,52,16,532. In 1952 the number of electorate was 1,24,97,714—registering an increase of 27,18,818 electorate. According to daily '*Jugantar*' the number of votes actually polled was 1,04,61,231. Now this number is to some extent confusing since it contains votes of double-number constituency and does not indicate a clear picture of actual voting. According to a spokesman West Bengal Government the percentage of voting compared to the total electorate was nearly 49% in 1957, in the first general Election it was 42% thus noting an increase of 7% polling in the Second General Election.

CANDIDATES AND PARTIES CONTESTING THE ELECTION

About 1150 candidates consisting of political parties and independents submitted the nomination papers. After withdrawal and rejection 934 candidates actually contested the election. Compared to First General Election the number of candidates are less reduced by more than 400. In 1952 the number of candidates were 1373. It is also interesting to note that the number of independents also in the present election have come down by nearly 300 (from 602 to 310).

As regards political parties there were altogether 17 parties and two groups of dissident congressities. Among the parties 6 were recognised by the Election Commission and the rest were either state or local parties grouped as independents. A list of parties and the number of candidates contested are given below for the information of the delegates :—

(1) *Congress*—251 candidates
(2) *Communist* (*C.P.I.*)—103 candidates.
(3) *Proja Socialist* (*P.S.P.*)—67 candidates.
(4) *Jana Sangha*—34 candidates
(5) *Hindu Mahasava*—37 candidates.
(6) *Forward Block* (*Marxist*) *F.B*(*M*)—7 candidates.
(7) *Forward Block* (*F.B.*)—26 candidates.
(8) *Revolutionary Socialist Party* (*R.S.P.*)—11 candidates.
(9) *Socialist Unity Centre* (*S.U.C.*)—9 candidates.
(10) *Bolshevik Party*—14 candidates.
(11) *Democratic Vanguard*—2 candidates.
(12) *Gorkha League*—3 candidates.
(13) *Lok Sebak Sangha*—11 candidates.
(14) *Socialist Party*—3 candidates.

(15) *Revolutionary Communist Party* (Tagorites) (R.C.P.I.)—15 candidates.

(16) *Revolutionary Communist Party* (Das Gupta) (R.C.P.I.)—5 candidates.

(17) *Communist League*—3 candidates.

It may be noted that these parties, excepting Congress again formed groups or electoral alliances among themselves to fight the election. Of course the special feature of the Election was the combination of the five major left parties for fighting the Congress and avoid wastage. The five parties representing C.P.I., P.S.P., F.B. (two wings) and R.S.P. made an electoral alliance on the question of programme and seats and issued a joint programme of work for an alternative democratic Government in West Bengal. The five big parties in their combined capacity contested as many as 214 Seats and this alliance made possible the heavy defeat of the ruling party in many places.

Among the smaller parties there were two other electoral alliances —one was known as 'West Bengal Democratic United Front' consisting of Jana Sangha, Hindu Mahasabha, R.C.P.I. (Tagorites), etc. These parties in their combined capacity contested 110 seats. The other alliance, 'West Bengal United Leftist Front' was consisted of small parties like Bolshevik Party, Socialist Unity Centre, Democratic Vanguard, Communist League, etc. They contested 46 seats.

And the remaining seats, about 310 were contested by the independents.

Election Manifestos and Programmes

From the candidates and parties we now enter in the arena of the election proper. An analysis of the election manifestos and programmes of the parties will show the nature and pattern of campaign of the Second General Election of our State.

In the Congress Election manifesto issued by the Pradesh Congress Committee, we find a general note of confidence and satisfaction over the achievements of the last five years. The manifesto claims, "We have made great advancement and have laid the foundation of new India which was so long in our dream." Of course there is also admission, "that the great march that we have undertaken is very long and strenuous and we have got to move in this path very slowly" (Congress Election Manifesto in Bengali, page 4).

In contrast to Congress manifesto, the C.P.I. while refusing to accept any fundamental or radical change in our country, states, "However, notwithstanding these advances and notwithstanding the partial improvement of certain aspects of our Economy, our country is still far from the objectives which we had proclaimed in the days when we fought against the British rule" (Election Manifesto of the C.P.I., page 9).

The P.S.P. while welcoming the Indian people on the eve of the Election categorically charges the Congress that "In the Congress regime the people have not witnessed any advancement of freedom, rather they have experienced the stiffling of liberty" (Election Manifesto, page 1).

Jana Sangha declared in its manifesto that 'The Congress has belied during its ten years' regime the prospect of an independent, happy and prosperous life which the people so very cherished."

The five left parties [C.P.I., P.S.P., R.S.P., F.B.(M) & F.B.] in their joint manifesto wrote, "The Bengal which was once pride of the whole of India is to-day an object of frustration thanks, due to the nine years' Congress rule" (United Leftist Election Manifesto, page 8).

The parties also expressed concern in the growing 'authoritarian trends' in the administrative set-up of the ruling party and vehemently became critical of its organisation. The parties also charged the government for its utter failure in regard to rehabilitation of East Bengal Refugees. On the question of foreign policy all parties, excepting Congress, criticised Government's Goa and Kashmir policy.

The 'West Bengal United Leftist Front' and Jana Sangha demanded a fundamental change of India's Constitution. The Leftist front did not favour the present parliamentary nature of our constitution.

As regards future programme promised by the parties we find special stress was laid by all the parties on Second Five Year Plan, solution of Unemployment problem, Resettlement of Refugees, Speedy Agrarian reforms, extension of Education and betterment of Middle Class.

In the Congress manifesto there are as many as 11 important items covering all vital matters. Similarly, in the joint Programme issued by the five left parties there are 36 items covering all aspects of our nation's life.

MANNER OF CAMPAIGN

In the Second General Election although we find a repetition of the forms and techniques in the matter of Election Compaign as was used in the previous election, still we note certain pecularities. Apart from mass meetings addressed by the leaders, demonstrations, bustee and group meetings, processions, dramas (open air), this year the medium of posters, specially coloured with cartoons were displayed by all parties. There were also parodies specially composed on popular film songs. Also there was the new system of house to house personal approach by the candidates.

ANALYSIS OF ELECTION RESULTS

We now reach the most important part of our discussion, *i.e.*, the analysis of the election results. In Table I a graphic description of the election results making a side by side camparison with 1952 has been incorporated. From an examination of Table I the following observations may be made :—

(1) That the Congress has topped the list and has retained its majority by capturing 152 seats in a house of 252. In 1952 it captured 150 seats in a house of 238. Although it has secured more votes this time—46.48% (in 1952 it was 38.93%), it has captured less seats, *i.e.*, 60.23% of seats (in 1952 it secured 63.34% of seats).

(2) The combined left opposition represented by C.P.I., P.S.P., F.B. (two wings) and R.S.P. have captured 80 seats and also expect support of 3 more members whom they supported in the Election. In percentage of votes and also in percentage of seats they have increased their strength compared to that of the ruling party. Calculated on the basis of total seats they captured in 1952—23.9% of the seats. In 1957 in their combined capacity they have secured as many as 31.7% of the seats—an increase of nearly 8% of the seats. Leaving aside this five-party alliance, the opposition as a whole has come out more stronger this time. Its entire strength is now 92—with two members of S.U.C. and 7 of Lok Sevak Sangha.

(3) The increasing strength of the Communist party is a special feature of this election. By contesting 103 seats they have captured 46 seats. In 1952 they captured only 28 seats—thus making an increase of 18 seats. Calculated on the basis of percentage vote, in 1952 the party secured 10.76% of votes and in 1957 they have secured 18.25%, thus making an increase of nearly 7.5% of the votes.

(4) Elimination of Jana Sangha and Hindu Mahasabha representation from the State legislature is a new trend of this election. In 1952 election they had a combined representation of 13 members in the legislature.

(5) The declining role of independent members and increasing faith of the electorate in the parties, specially big and consolidated parties. The independents and small parties have captured 13 seats. In the last election they captured 19 seats. Again calculated on the basis of votes obtained by big parties and independents (including small parties), we shall note that in 1952 the Congress and left parties jointly secured 65.46% votes and the rest 34.54% went to these independents. In 1957 they have secured only 19.6% of the total votes whereas Congress captured 46.48% and the combined left have secured 33.87% of the votes.

ELECTION RESULTS BY DISTRICTS

We next come to our analysis of the election results in the districts. It may be recalled that due to delimitation of the constituencies the number of seats allotted to the districts have undergone certain changes. Also there is the addition of the Purulia district with 11 seats.

(1) That the ruling party has retained its absolute supremacy in the districts of Cooch Behar, Nadia (10 out of 11), Murshidabad (15 out 16) and Baukura (all the 13 seats). In the North Bengal particularly, in the districts of Darjeeling, Jalpaiguri, West Dinajpur and Malda its supremacy has to some extent been shaken in this election. Out of 33 seats of these four districts Congress has captured 22 seats and the combined left have secured 6. It may be remembered that in 1952 the total strength of the left was only 2. Thus there is a slow but marked penetration of the left in these Northern Districts. Of course Congress has made spectacular victory in Midnapore where it has captured 22 seats out of 32 and has conceded only 10 seats to the left. In 1952 Congress secured only 12 seats out of 35 and among the rest 13 by the C.P.I. and P.S.P. combination, 8 by Jana Sangha and 2 by the independents.

(2) That in the newly added Purulia district, the reminiscence of the linguistic movement particularly the movement for inclusion of the Bengalee-speaking areas into West Bengal and the distrust of the local people in the Congress Government have been well-reflected in this election. The district's larger share of representation has gone

to the local party the ' Lok Sebak Sangha ' candidates (7 seats). The Congress has captured the rest.

(3) That in the industrial districts of Calcutta, 24-Parganas Burdwan, Hooghly and Howrah the Congress suffered heavy defeats in the hands of combined left. Out of 119 seats of this area Congress has secured 54 seats and the combined left 59. The left is expected to receive 4 more members in these districts whom they supported in the election. As such their combined strength comes to 63. In 1952 Congress had 68 seats in its favour and the left only 36 and 2 supporters. Calculated, on the basis of percentage of seats, in 1952 Congress captured 58.6% of the total seats and the left 36.2. In 1957 the Congress has captured 45.3% of the seats and the left about 53%.

TABLE III

ELECTION RESULTS OF 5 INDUSTRIAL DISTRICTS IN TABULATED FORM

Name of the Districts.	Total seats of Districts.		Seats won by Congress		Seats won by combined left.		Percentage of total seats.	
	1952	1957	1952	1957	1952	1957	1952	1957
Calcutta	26	26	17	8	7	18	58.6% (Con.)	45.3%
24-Pargs.	40	42	23	20	13	22	36.2% (Left)	53%
Hooghly	14	15	7	11	6	4		
Howrah	16	15	8	5	7	10		
Burdwan	20	21	13	10	5	9		
Total :	116	119	68	54	38	63		

URBAN VS. RURAL

(4) The district result as shown above exhibits not only parties strength in different districts but also reveals the trend of the electorate situated in these districts. There is a marked trend that the people in the urban area have voted more in favour of left parties than in the Congress. And the picture is more interesting when we remember that out of 85 municipalities and two Corporations, 46 municipalities and two Corporations are located in these five districts. The ' Statesman ' while reviewing the state election results observed, "Taking the overall position, the Congress has done well in rural areas, except in a few constituencies, while the leftist opposition has scored over the ruling party in Calcutta, in centre of labour concentration and in several towns." The ' Statesman ' also indicated the causes of Congress success in the rural areas—"one of the factors which seems to have swayed opposition in rural areas is the abolition of the Zemindary system, which was a score point with the peasantry for decades. There is also no doubt that developments in various fields

affecting rural life had taken place under the Congress administration since independence and these must have in no small measure influenced voters in supporting the ruling party."—The Statesman, 30.3.1957.

CALCUTTA RESULTS

The results of Calcutta constitute an important subject-matter for our study. As we have already stated the ruling party suffered its greatest setback in this great metropolitan city, the capital of West Bengal. The ruling party gained no new constituency in the city and has lost 7 of its sitting members including a minister. The majority of the Chief Minister, a man of outstanding personality, has been reduced from 4,111 in a total 23,709 votes polled in 1952 to 540 in a total of 31,060 in 1957.

The election has also revealed that the Calcutta electorate have not taken either the small parties or the independents seriously. Their 90% of votes have either been cast in favour of the Congress or of the Left.

The five-party left combination secured 18 seats out of 26 as against 9 in 1952. Analysis on the basis of votes they have captured together, according to 'the Statesman' 409391 votes or just over 49.5% of the total votes polled in 1957—(824031). This compares with 40 5% received by the Congress. In 1952 Congress polled 41.6% votes but gained 59% of the seats. Whereas this time the leftist have secured 69.3%of the seats and the Congress 30.7%.

ANALYSIS OF ELECTION RESULTS IN THE LABOUR CONSTITUENCIES

Apart from rural-urban consideration we may also analyse the results on the basis of labour constituencies. Of course it is rather difficult to assign a particular constituency as strictly labour, since labour areas are in many places mixed up with even semi-urban areas and there is concentration of white colour employee along with the factory labour. Still on the basis of 30% labour population there are at least 34 labour constituencies in the State consisting of 41 seats. And out of these 41 seats—26 are situated in the Greater Calcutta covering Calcutta, Howrah, Hooghly and 24-Parganes, 7 in the North Bengal dominated by Tea garden areas—7 in the Asansol region and 1 in the Kharagpur Railway area.

According to daily ' Jugantar ' 22 of these 41 seats were won by the left and 19 by the Congress. In 1952 Congress captured as many as 33 seats out of 39 and only 6 went to the left.

The monthly 'New Age' while analysing the working class vote, points out the cause of left success in the present election. The paper observes : "In contrast with the situation then prevailing, the 1957 elections came on the crest of five unbroken years of positive and negative experience for the working class—positive development of the organised trade union movement and of left unity on the one hand, and the purely negative fruits, on the other, of the Government's pro-employer labour policies."—New Age, June, 1957).

It may further be mentioned that all the important INTUC leaders of the State have been defeated in this election.

CONCLUDING REMARKS

While concluding the present analysis of the Second General Election of our state it may be observed that the electorate in general have exhibited inspite of great excitement and tension a cool, well-balanced and judicious selection of their candidates in the State legislature.

In the words of Modern Review, "From a general view (detailed analysis are yet to be made) the Indian electors may be stated to have exercised their right of franchise with wisdom and restraint." (Modern Review, April, 1957).

Although the ruling Congress party has been voted to power, the emergence of a strong opposition is a healthy development in the political life of the State. As the Statesman has correctly pointed out the implication of this development—" The emergence of a stronger opposition from this year's election is an important turn in the State's Politics. This may lead to a greater realization by the leftist parties of the responsibility of the opposition in Parliamentary democracy and by the ruling party of the need for better understanding of the peoples' mind" (The Statesman, 24. 4. 57).

But this is not all. The electorate also expressed keen interest and consciousness during the period of election. We find this new trend particularly in the urban electorate. Mass meetings, demonstrations or poster displays did not satisfy the voters. There was insistent demand practically in all urban constituencies for house to house approach of the candidates. And even the strong man of our State, Dr. Roy was not spared from this demand.

Secondly, the Urban electorate in this Second General Election of the State cast their votes more in favour of the left parties, particularly in the big and consolidated parties than in the ruling Congress party. The Chief Minister of our State, Dr. Roy, admitted after the election that—"it was the town where the vocal section of the people lived, people who could appreciate their difficulties and express them whenever opportunity arose." He also admitted—"towns had not received much attention during the last five years"—Hindusthan Standard, 13. 4. 57.

Thirdly, the Electorate in many areas tried to assess from the candidates, specially sitting members, the volume of work they have done during the five-year period they were in the legislature.

Fourthly, the election has also revealed that there is a tendency that the electorate prefer new members and want to replace the old. About 70 sitting members, comprised of important leaders of all parties have been un-seated in this election. About 57% of the total members are new members. Their total strength is 140.

We may thus conclude that the last election is a fair reflection of the conscious public opinion of our state. And lastly in the larger participation of people in this election, in the manner of election campaign and in the selection of candidates the people in spite of frustration and tension have shown their faith and confidence in the working of the parliamentary democracy in this country.

ANALYSIS OF ELECTION RESULTS

TABLE No. I

(Results by Seats and votes obtained)

Party	1957			1957		1952			1952	
	Seats contested	Seats obtained	Vote secured	Percentage of total votes	Percentage of total seats	Seats contested	Seats obtained	Vote secured	Percentage of total votes	Percentage of seats
Congress	251	152	48,30,479	46.48	60.32	236	150	28,86,538	38.93	63.4
Communist	103	46	18,64,908	18.03	18.25	86	28	7,32,304	10.76	11.7
Proja Socialist	67	21	10,20 584	9.94	8.33	124	15	6,31,002	8.97	6.2
Forward Block (two wings)	33	10	4,52,422	4.34	3.96	82	13	5,20,431	6.80	5.4
Jan Sangha	34	Nil	1,02,477	.98	...	87	9	4,23,910	5.61	4.2
Hindu Mahasabha	37	Nil	2,25,126	2.12	...	33	4	1,77,776	2.37	1.6
Revolutionary Socialist Party	11	3	1,10,995	1.56	1.19	(Not known)				
Lok Sebak Sangha	11	7	1,40,700	1.35	2.77	(Not contested in the last election)				
Other parties and independents	387	13	15,00,201	15.20	5.19	725	19	19,32,081	26.36	7.5
Total	934	252	...	100.00	100.00	1,373	238	...	100.00	100.00

ANALYSIS OF ELECTION RESULTS

TABLE No. II

(Results by Districts and by Parties)

Name of the District	Seats allotted		Congress Seats obtained		Communist Seats obtained		Proja Socialist Seats obtained		Jan Sangha Seats obtained		Hindu Mahasabha Seats obtained		Forward Block (2 wings) Seats obtained		Revolutionary Socialist Seats obtained		Other parties and independents Seats obtained	
	'52	'57	1952	1967	1952	1957	1952	1957	1952	1957	1952	1957	1952	1957	1952	1957	1952	1957
Darjeeling	5	5	1	1	1	2	...	...	...	...	...	...	...	...	...	...	3 (Gorkha Loague candidates)	2 (Gorkha League)
Jalpaiguri	10	9	10	7	...	1	...	1	...	...	...	...	...	...	...	...	...	...
Cooch-Behar	6	7	6	7	...	...	...	...	...	...	...	...	...	...	...	...	...	...
West Dinajpur	6	10	6	8	...	1	...	...	...	...	...	...	...	...	...	1	...	...
Maldah	9	9	6	6	1	...	...	...	...	...	...	...	...	...	...	...	2	3
Murshidabad	16	16	14	15	...	...	...	...	...	...	...	...	...	...	...	...	2	1
Birbhum	11	10	8	5	...	3	1	1	...	...	...	...	2	...	...	...	...	1
Burdwan	20	21	13	10	2	3	2	4	...	...	1	...	1	1	...	...	1	3
*Purulia	...	11	...	4	...	...	...	...	...	...	...	...	...	...	...	...	...	7 (Lok Sebak Sangha)
Bankura	14	13	10	13	...	...	...	...	...	...	3	...	...	...	...	...	1	...
Hooghly	14	15	7	11	4	3	...	...	...	...	...	...	1	...	...	...	2	1
Howrah	16	15	8	5	2	4	...	1	...	...	...	...	5	5	...	...	1	...
Midnapur	35	32	12	22	6	5	7	5	8	...	...	...	...	...	...	...	2	...
Calcutta	26	26	17	8	4	10	...	4	...	...	...	...	3	3	...	1	2	...
24-Parganas	40	42	23	20	8	14	4	4	1	...	...	...	...	1	...	1	3 (S.U.C. 1)	2 (S.U.C. 2)
Nadia	10	11	9	10	...	...	1	1	...	...	...	...	...	...	...	...	...	...
Total	238	252	150	152	28	46	15	21	9	...	4	...	12	10	...	3	19	20

* In 1952 there were only 15 districts. After States reorganization 'Purulia' has been included in West Bengal.

BUDDHISM AND CELIBACY

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There is scarcely any doubt about the fact that Buddhism inherited much of its ideas and ideal from Brahminism and made slight modification both in terminology and idea. In the Brahminical schools of thought special emphasis was laid on the observance of the 'saṁskāras' which varied from two to forty. The purpose behind this observance of the saṁskāras was to make one purified from sins incurred knowingly and without knowlege. Manu distinctly prescribed that through the observance of prescribed acts the body of a person becomes fit for attaining salvation in the form of unification with Brahmaṇ :

> Svādhyāyena bratairhomaistraividyenejyā sutaiḥ
> Mahāyajñaiśca yajñaiśca brāhmīyaṁ kriyate tanuḥ.
>
> (*Manu* II/28).

For members of any one of the three classes of society namely, Brāhmaṇa, Kṣatriya and Vaiśya, the writers on law in ancient India prescribed initiation (*upanayana*) respectively in the 8th, 11th and 12th year of their birth. (*Manu*, II/36). The idea that worked behind this direction was that a man does not attain the right of going through the Vedas, unless he observes disciplinary rules as per direction of the śāstras (*Manu*, II/16). After initation the chief duties of these twice-born (*dvijas*) persons were to study the Vedas, to beg food, to observe strict celibacy and to live a simple self-restrained life (*Manu*, Chap. II). With the exception of some rules with regard to substances of food, stuffs, and colours of clothing, hairdressing demeanour in public and behaviour towards their spiritual teachers, penance for the breach of rules and some other rules of minor importance, both Brāhman and Buddhist students have many rules in common. According to ancient Indian customs, those belonging to the three upper classes had to pass through the four Āśramas or orders of life, that of Brahmacārin or Vedic student, that of the Gṛhastha or house-holder, that of Vānaprastha or hermit and that of the Sanyāsin or ascetic. Of these four orders, the first and the fourth were compulsory, while the two middle were optional. The life of an ancient Brāhmaṇa therefore, generally speaking, began in celibacy, which with an interruption of a house-holder's life was resumed in the life of an ascetic. The Brahman Brahmacārin corresponds to the Buddhist Sāmaṇera and the Brāhman Sañyāsin or Bhikṣu to the Buddhist Bhikkhu. The name *Bhikṣu* corresponds to the Pāli *Bhikkhu,* which is used in some Dharmasūtras (*Gautama,* III-2; *Baudhāyana,* 11. 12) in the same meaning as the word *sanyāsin* reminds us of a close connection between the two. The difference between Brāhman and Buddhist celibate lives was that in the former it was compulsory for everybody at the beginning and at the end of his life, while in the middle part of it celibacy was optional, while in the latter celibacy is compulsory only for those who have voluntarily joined the monkhood. As to the other Buddhist or lay people, they are not obliged to observe celibacy, except when they keep the eight precepts on the uposatha days which come two or three times every lunar month or on some other special occasions. Persons joining the monkhood are required to observe strict celibacy through life first as sāmaṇeras or novices and later as Bhikkhus or fully qualified monks.

Brahmacarya is a term which conveys similar sense in both Brahmaṇical and Buddhist texts. The Buddhist texts use it in more senses than one. The most remarkable meaning is complete celibacy or total abstinence from sexual intercourse, a vow which the Buddhist monk has to observe through life and the layman only when he observes the eight precepts on the uposatha days or on some other special occasions. The breach of this vow is the first of the four most serious offences (*Pārājikā*), the punishment for it being perpetual expulsion from the monkhood. The Pātimokkha records twenty-one laws enacted concerning sexual intercourse. The other sense in which it is used means 'a life of perfect holiness or purity' led by those who have entered the Four Paths. This is religious life in its perfect sense and it seems that this sense is peculiar to Buddhism, as the performance of this culture is peculiar to it. It begins with the practice of self-control or what we may call the preparatory practice of purification in the Four Paths: Keeping watch over senses, being moderate in eating, being vigilant thoughtful and conscious. (*Aṅguttara Nikāya,* 1. 166). The precepts in the Pātimokkha are said to be the first part of and in cenformity with, the Brahmacariya or 'life of holiness'. If any one is firm and stable in observing them one will destroy the three bonds, the heresy of individuality, doubt and erroneous religious practice and rites and thereby he will enter the First Path. He must then destroy these three bonds and attenuate the three roots of evil, lust, hatred and ignorance and thereby enter the Second Path. After destroying the five bonds belonging to lower parts, the heresy of individuality; doubt, erroneous religious practices and rites,lust after life in the Kāma world and ill will, he will therby enter the Third Path. Then lastly he will put an end to all the passions and live, having for himself understood, realised and attained in this very life the emancipation of mind and of insight which is free from passion. Arhatship or Nibbāṇa which is the final goal of Buddhist culture or Brahmacariya, is thus reached. Brahmacariya has as its chief end Nibbāṇa or Arhatship (*Anguttara Nikāya,* 1.50, 168; IV. 77; *Suttanipāta,* II, 278-9, 284). The expression *Vusitaṁ brahma cariyaṁ* which we find so often is another name for the accomplishment of Arhatship.

The destruction of the three roots of evil is the perfection of Brahmacariya. (*Sutta Nipātas,* V, 7-8, 16) because when these three roots of evil are entirely uprooted, the person will be perfectly purified. This is the goal, the *summum bonum* of the Buddhist culture. The Buddhists do not observe celibacy for being reborn in the heavenly world or for obtaining celestial long life or celestial authority. Sometimes the object is stated to be the destruction of five avarices (*Anguttara Nikāya,* III, 272), of seven bonds, (*Ibid.,* IV. 7), of seven inclinations (*Ibid.,* IV, 9) or of suffering and pain (*Ibid.,* II, 26; *Sutta Nipāta* II, 24-5). All these different expressions refer to one and the same thing, namely, the destruction of mental evil and the attaintment of mental enlightenment. Lord Buddha mentioned association with a woman as an obstacle to Brahmacariya (*Anguttara,* V, 134). The reason why celibacy is highly spoken of in Buddhism is this that pleasures which are enjoyed through sense organs are always regarded as mean and detestable and the greatest of these perhaps is pleasure obtained from sexual relation. But Buddha in establishing this institution of celibate life and his disciples in following it doesnot crave after reputations for greatness of nobility of character. In the Anguttara Nikāya it is stated. "This celibate life is not led, monks, either on purpose to deceive people, or on purpose to be talked of by people or for the profit of gain, respect and praise or for the sake of being gossipped about or to secure popular recognition" (II, 26).

The point which attracted his attention is that single life is more convenient for the accomplishment of a task which will engage any one through life. The maintenance of a family is a heavy burden, under the load of which few people are able to stand and devote themselves to their life's work. Many ship wrecks of mankind are due to this overload. Even if the issue is not so grave, still much of human inertness is ascribable to this cause. In the field of spiritual work this burden is specially felt and it is natural that those who have spiritual inclinations should take up a life of double meaning deliverance from worldliness on the one hand, if not from the sensual indulgence of the world, and the adoption of a life of a homelessness on the other.

The forgoing discussion will evidently make it clear that Buddha laid special emphasis on austerity or Brahmacarya in a monk's life. His point was that unless a person is in a position to be free to work unattached he cannot have his mind fully concentrated towards the goal. Only after self-development one can direct his attention to the benifit of others.

THE DRAMATIC GENIUS AND ACHIEVEMENT OF WILLIAM BUTLER YEATS

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I

INTRODUCTION : CRITICISMS OF WILLIAM BUTLER YEATS AS A DRAMATIST

The dramatic genius of William Butler Yeats has not been properly appreciated so far. To the reading public he is known as a successful poet, to the critic as a playwright of average merit. A. C. Ward, in speaking about his dramatic work, observes:

"Yeats was, in the beginning, essentially a romantic lyrical poet, and he did not move with ease in the dramatic form." [1]

Collins says :

"But despite his creative genius Yeats was not a great dramatist, and the value of his plays lay chiefly in their poetry." [2]

Again, Ifor Evans :

Yeats's supreme poetical genius moved uneasily in the theatre, but his enthusiasm for the movement was unbounded." [3]

Or, Louis Macneice :

"Yeats was the cause of drama in other men, but he does not seem to me to have been properly a dramatist himself." [4]

This is echoed by Allardyce Nicoll in the following lines:

"In many respects Yeats may be regarded as a lyrical poet than as a playwright, his delicately fragile melodies and his esoteric mysticism alike tend to weaken the theatrical element in his dramas."[5]

V. K. Narayana Menon in his book, *The Development of William Butler Yeats* says :

"He had an unerring instinct to pitch upon dramatic situations. He could achieve great intensity of thought and passion. Yet his achievement as a dramatist would seem rather incommensurate with his gifts. This failure is worth analysing."[6]

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[1] A. C. Ward : *Twentieth Century Literature*, 1901-1940, Tenth Edition, 1946, p. 109.

[2] A. S. Collins : *English Literature of the Twentieth Century*, Second Edition, p. 290.

[3] B. Ifor Evans : *A Short History of English Drama* (Pelican Series, 1948 Edition), p. 165.

[4] Louis Macneice : *The Poetry of W. B. Yeats*, Oxford University Press, 1941 Edition, p. 187.

[5] A. Nicoll : *British Drama*, Fourth Edition, 1947, reprinted, December, 1955, p. 405.

"Yeats was conscious of these limitations. After all, he himself set the limitations within which he was to function. His genius was not of an abundant type which could take in life with all its infinite variations. He could not realise that it was possible to create a living national theatre of a realistic kind. Others did."[7]

"All this proved intensely interesting, though occasionally bizarre, in a drawing-room with a few intellectuals. But this drama of essence portraying a spiritual or intellectual conflict, with its esoteric implications, almost completely failed on the public stage. All the genius of Hildo Krop, the Dutch sculptor, Edmund Dulac, George Antheil and Ninette De Valois ...... could not save it. The inadequacy of his new model was clear. But he had set aside with an overweening gesture the European traditions of Play-writing. All he could do was to retire into his own shell and maintain his remoteness and austerity."[8]

"A man with such gifts and strength could have been the greatest force in modern drama. With all his limitations, he has been a considerably important force. No man of our time has had half his genius to, in his own words, restore the sovereignty of words and revitalise poetry on the stage. What a pity his anti-middle-classishness finally drove him into a *cul-de sac* of his own making."[9]

This, indeed, is a formidable array of adverse criticism. Yet the truth about Yeats as a dramatist is only half-told. It is significant to note that none of these critics, except, perhaps Louis Macneice, looks at Yeats 'steadily and whole'. They examine fragments of his dramatic work, mostly the dramas of his early period, and judge him by that standard alone Ward, for instance:

"The first prominent figure among the dramatists of Irish literary theatre movement was, of course, W. B. Yeats himself. His The Countees Cathleen (1892) and the Land of Heart's Desire (1894) became widely known, but their popularity depended more upon poetic charm and strangeness than upon dramatic power. In such an exacting medium as poetic drama exceptional skill is required to maintain the balance between poetry, action, and characterization. Yeats's plays are defective in their organic construction. They do not create the illusion of possible people behaving credibly and using an appropriate speech-medium. Though the characterization is more effective in The Land of Heart's Desire than in The Countess Cathleen, poetry is obtrusive in both plays." [10]

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[6] V. K. Narayana Menon: *The Development of W. B. Yeats*, Oliver and Boyd, London, W.C. 1, 1942, p. 84.

[7] *Ibid.*, p. 85.

[8] *Ibid.*, pp. 87-88.

[9] *Ibid.*, p. 89.

And Ifor Evans says:

"In his own plays Yeats probably remained mainly a lyrical poet even in the theatre and audiences are likely to enjoy The Land of Heart's Desire (1894), The Countess Cathleen (1899), The Shadowy Waters (1906) and the later plays more for the beauty of the verse than for dramatic situations." [11]

As will be evident from the above Ward takes into account only two Early plays of Yeats, *Countess Cathleen*, and *The Land of Heart's Desire*, while Evans adds *The Shadowy Waters* and the indefinite *Later Plays*, in their final judgment about the dramatic power of Yeats.

The early dramas of Yeats, though they contain some of his best plays like *The Land of Heart's Desire* or *Countess Cathleen*, can by no means be regarded as the true index to his dramatic merit. And it would be unwise to pronounce any final judgment on him on the strength of his early plays alone. Yeats lived a pretty long age (he died at the ripe old age of 74), and his literary career is in a continuous stage of evolution. He, like Shakespeare, shows unmistakable signs of steady development in his literary career. If we look at the entire compass of his dramatic production, we find that he wrote his first play, *Countess Cathleen* in 1892, his last, *The Death of Cuchulain* in 1939. During this broad span of nearly half a century, Yeats the man changed considerably and again and again. Diverse social, political, personal and literary problems faced him, changed him, and moulded his personality. His literary pen also changed and developed, along with the man. It will be interesting to note the constant metamorphoses in the man and the resulting changes in the tone of his creative productions.

II

There has been considerable vituperation against the dramas of Yeats. Critics say that they are 'merely' poetic and so unfit for the stage.

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[10] A. C. Ward: *Twentieth Century Literature*, 1901-1940, Tenth Edition, 1946, p. 108.

[11] B. Ifor Evans: *A Short History of English Drama* (Pelican Series, 1948 Edition), p. 165.

Nicoll says :

"All of Yeats's dramas suffer from too great lyrical fervour and from a lack of action; yet they are unquestionably among the finest poetic plays of our time." [12]

"He remains, and will remain, one of the dominant European figures in the development of the poetic and symbolic play." [13]

And Louis Macneice :

"I wish however briefly to examine his verse—plays . . . . for the light they throw on his poetry in general." [14]

"On the whole the poetry of the plays is less interesting, less powerful, and less original than that of the lyrics, but it is always the same man writing." [14]

"Browning made the lyric approximate to the drama; Yeats, working on Pater's principle that art is the removal of surplusage, makes the drama approximate to the lyric. One can apply to him the moral of a remark which he quotes from William Morris . . . . that "the Norseman had the dramatic temper, the Irishman the lyric."[15]

"His dialogue was inadequate because he lacked the dramatic sense. Though undramatic the verse of his plays has its virtues. ' [15]

G. S. Fraser says :

"Yeats's poetry I believe to be the centrally important part of his work. His two best plays, Purgatory and The Words upon the Window—Pane are magnificently successful, but minor in scale, his longer plays seem to me all to dilute his art . . . . it was into his poetry that he put himself most completely." [16]

And Stephen Gwynn :

"As to the Yeats's play (The Land of Heart's Desire), its beauty was recognised, but not less the lack of dramatic quality was felt." [17]

And Collins as already quoted before, observes :

"But despite his creative genius Yeats was not a great dramatist, and the value of his plays lay chiefly in their poetry." [18]

Without dissenting and detracting from the 'Poetic' character of the plays, it will be the intention and scope of this essay to demonstrate and establish how far Yeats's dramas are successful on the stage, in other words to know how far these dramas are not merely 'Poetic' but 'dramatic' too that is, successful dramas in respect of plot, characterization, action, scenes, setting, situations, dialogues, criticism of life, language and diction. To do this, it will be convenient to group his dramas not only chronologically, but also according to types. Yeats in his chequered dramatic career composed as many as 26 dramas,—Shakespeare composed 37—including two translations from Sophocles. And there is so much variety and vitality in them that it surprises the writer of the present essay to think how even critics like Ward, Nicoll and others could have overlooked their genuine merit.

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[12] A. Nicoll : *British Drama*, Fourth Edition, 1947, reprinted, December, 1955, p. 410.

[13] *Ibid.*, p. 405.

[14] Louis Macneice : *The Poetry of W. B. Yeats*, O.U.P., 1941 Edition, p. 187.

[15] *Ibid.*

[16] G. S. Fraser : *W. B. Yeats* (published for the British Council and the National Book League, by Longman's, Green & Co., London, New York, Toronto), pp. 28-29.

[17] Stephen Gwynn : *Irish Literature and Drama*, Thomas Nelson and Sons, Ltd., 1936, p. 146.

[18] A. S. Collins : *English Literature of the Twentieth Century*, Second Edition, p. 290.

III

A CLASSIFICATION OF HIS PLAYS

Apart from chronology, Yeats's plays can be classified according to types, and this classification reveals the amazing variety of Yeats's dramatic production. We might say of him as was said of Chaucer, "here is God's plenty," and we may adapt Johnson's criticism ~~of~~ Goldsmith and say that in the Drama Yeats "left nothing untouched and touched nothing that he did not adorn."

Comparing him with two of his great Irish contemporaries, we see that Synge wrote only Folk-dramas, Lady Gregory only Folk-comedies, whereas Yeats's dramas contain almost all the known and established types of the drama, and it can be said to his credit that his keen, eager, and adventurous spirit explored new grounds and created some new forms of the drama in English literature.[19]

The dramas of Yeats can be conveniently classified according to the following types :—

Group A : (1) Tragedies, (2) Comedies, (3) Chronicles, or Historical and Political Plays, (4) Satire and Farces, (5) Mythological, and Legendary, and Folk Dramas Plays, (6) Religious Plays—Mystery, Miracle, and Morality Plays, (7) Biographical Play, (8) Plays based mainly on the Noh Plays of Japan—Mask and Dance-dramas.

Group B : (1) Poetic and Symbolical Plays
(2) Realistic Plays.

Group C : Translations.

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[19] One of the new forms which he created in English literature was the Plays mainly based on the Noh Plays of Japan, the Mask and the Dance Dramas, the latter also being practised with much success by the Indian Nobel-Laureate, Rabindranath Tagore.

Yeats himself gives a definitive classification of his plays in the Eight-Volume publication of his Collected Works (1908) and this classification, as E. A Boyd in his book *The Contemporary Drama of Ireland* notices, is based on the 'inspiration' behind each play. E. A. Boyd himself has followed this classification with some modification.[20] He classifies the Plays into 'Plays of Gaelic Legend and History' and 'Miscellaneous' plays. He has grouped them into these two groups.

Without entering into any controversy whether so great a number of Yeats's plays can be classified into only these two types, the present essay attempts to give an idea about the fecundity and prolific nature of Yeats's dramatic productions, which defy and baffle any such simple and short-cut classification. This remark also applies to the classification of his plays simply into two chronological periods, *viz.*, 'the Early' and 'the Later Plays', as has been done by many authors.

The 26 Plays which Yeats composed fall into the above-mentioned classification list as follows:—

Group A.

I. TRAGEDIES :

(1) Countess Cathleen (1892),
(2) The Land of Heart's Desire (1894),
(3) Cathleen ni Hoolihan (1902),[21]
(4) On Baile's Strand (1904),
(5) The King's Threshold (1904),
(6) Deirdre (1907),
(7) The Unicorn from the Stars (1908),
(8) The Hour-Glass (1914),
(9) The Dreaming of the Bones (1919),
(10) The Only Jealousy of Emer (1919),
(11) Calvary (1920),

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[20] " It is best to consider them in groups according to the nature of the inspiration. For this we have the precedent of the author when arranging his Collected Works in the eight-volume edition of 1908. In that well-ordered presentation, the most satisfactory of the innumerable editions for which Yeats is noted, the destination or purpose of the plays is not the basis of titular differentiation. They are grouped mainly by reference to an approximate identity of mood or theme, without regard to chronology, the legendary dramas being in an earlier volume than the others, although of later conception. Here, however, we may reverse this order, reserving for the end those plays based upon the legends of Celtic history."—Ernest A Boyd : *The Contemporary Drama of Ireland*, p 54 (T. Fisher Unwin, Ltd., London, 1918).

[21] It is doubtful whether this play can be called a tragedy, since there is a happy note at the end of the drama, *viz.*, the going out of a young man to serve his country. But E. A. Boyd, whose work, *The Contemporary Drama of Ireland*, has already been referred to, classifies it as a tragedy—' this little tragedy ',—in p. 65 of that book : " the poignancy of this little tragedy never fails to touch an Irish audience, and the play enjoys the distinction of being the only work of Yeats which is more effective in the theatre than in the printed book."—E. A. Boyd, *The Contemporary Drama of Ireland*, pp. 65-66.

(12) The Player Queen (1922),
(13) A Full Moon in March (1935),
(14) The King of the Great Clock Tower (1935),
(15) The Herne's Egg (1938),
(16) Purgatory (1938),
(17) The Death of Cuchulain (1939),
(18) King Oedipus (1928)[21]
(19) Oedipus at Colonus.[22]

II. COMEDIES AND FARCE:

(1) The Pot of Broth (1904),
(2) The Green Helmet (1910).

III. SATIRE:

(1) The Herne's Egg (1938).

IV. CHRONICLES, OR HISTORICAL AND POLITICAL PLAYS:

(1) Cathleen ni Hoolihan (1902),
(2) The Dreaming of the Bones (1919).[23]

V. MYTHOLOGICAL PLAYS, AND PLAYS BASED ON IRISH LEGENDS AND FOLK-LORE:

(a) *Mythological Plays—*
  (1) At the Hawk's Well (1917),[24]
  (2) On Baile's Strand (1904),[24]
  (3) The Green Helmet (1910),[24]
  (4) The Only Jealousy of Emer (1919),[24]
  (5) The Death of Cuchulain (1939),
  (6) Deirdre (1907).

(b) *Plays based on Irish Legends—*
  (1) The Shadowy Waters (1911),[25]
  (2) The King's Threshold (1904),
  (3) The Dreaming of the Bones (1919).

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[22] Translation from *Sophocles*.

[23] Story of Diarmuid and Dervorgilla, who betrayed Ireland.

[24] These four dramas,—followed by a fifth, *The Death of Cuchulain* (1939)—constitutes a tetralogy which Yeats, a great admirer of Greek classic drama, wrote in the manner of Greek classical masters, on the life and death of Cuchulain, the great Legendary hero of Ireland.

[25] There have been many editions and versions of this play. Macmillan & Co.'s *Collected Poems of W. B. Yeats* gives the version of 1906, and the same Co.'s *Collected Plays of W. B. Yeats* gives that of 1911. "The Shadowy Waters was first published in The North American Review, in May, 1900 . . . . on his return (from America) he (Yeats) proceeded to re-write the play in the form published in 1906."—E. A. Boyd: *The Contemporary Drama of Ireland*, pp. 76-77.

(c) *Plays based on Irish Folk-lores*—

(1) Countess Cathleen (1892),
(2) The Land of Heart's Desire (1894),
(3) Cathleen ni Hoolihan (1902),
(4) The Pot of Broth (1904),
(5) The Unicorn from the Stars (1908),
(6) The Hour-Glass (1914).

VI. RELIGIOUS PLAYS:

(a) *Mystery*—

(1) Calvary (1920),
(2) Resurrection (1931).

(b) *Miracle*—

(1) The Cat and the Moon (1926).

(c) *Morality*—

(1) Countess Cathleen (1892),
(2) The King's Threshold (1904),
(3) The Hour-Glass (1914),
(4) The Unicorn from the Stars (1908).

VII. BIOGRAPHICAL PLAY

(1) The Words upon the Window-Pane[26] (1934).

VIII. PLAYS MAINLY BASED ON THE NOH PLAYS OF JAPAN—MASK AND DANCE-DRAMAS:

(1) At the Hawk's Well (1917),
(2) The Only Jealousy of Emer (1919),
(3) The Dreaming of the Bones (1920),
(4) Calvary (1920),
(5) The Player Queen (1922),
(6) The Cat and the Moon (1926),
(7) Resurrection (1931),
(8) A Full Moon in March (1935),
(9) The King of the Great Clock Tower (1935),
(10) The Herne's Egg (1938),
(11) The Death of Cuchulain (1939).

[26] Based on the life of Jonathan Swift.

Group B.

(1) Poetic and Symbolical Plays, [27]
(2) Realistic Plays [27].

Group C.

TRANSLATIONS :

(1) Sophocles' King Oedipus (1928),
(2) Sophocles' Oedipus at Colonus (1934).

As will be evident, the classification mentioned above is not strictly 'exclusive'. In other words, some of the types overlap. This is not surprising, since a play can be classed into one or another category according to the varying principles of classification.[28] Shakespeare's *Coriolanus, Antony and Cleopatra* or *Julius Caesar* can be called chronicles or history plays if we take them as dramatic records of historical events. The same plays, again, can be, and are popularly called, 'Tragedies', when we look to the tone and leading motive of the plays. Similarly, in the above classification of Yeats's plays, *On Baile's Strand* can be grouped as a Tragedy, when the great catastrophe in the life of Cuchulain, the great Irish Legendary hero, is taken into consideration. Again, this play has been grouped under Mythological plays, since the story and characters of the play have been derived from the great Cuchulain group of Mythology in Ireland.[29]

Fastidious artist that he was, Yeats is noted for the 'innumerable editions' [30] and revisions of his poems, and, specially, his plays. It follows, therefore, that in many instances his plays bear more than one date of composition.[31] The dates given against the plays in the above classification list are those given in the latest Edition of Macmillan & Co.'s *The Collected Poems of W. B. Yeats.*[32]

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[27] To be discussed later on.

[28] In this connection, the remarks of Emile Legouis while classifying the dramas of the Renaissance in England, may be noted : "It is equally difficult to attempt a classification of the play under various headings : Pure Tragedy, Tragi-comedy, Historical Drama, Romantic Comedy, Comedy of Realism, Farce, Pastoral, Comedy of Manners, Comedy of Character, &c., since such lines of demarcation correspond ill with a drama which habitually mingles many Styles in one, aiming at variety and not at unity."—*A Short History of English Literature* by Emile Legouis (p. 119). Translated by V. F. Boyson and J. Coulson (Oxford, at the Clarendon Press, first published in 1934 and reprinted in 1945).

[29] *Vide* Stephen Gwynn : *Irish Literature and Drama* (First publication, 1936, Thomas Nelson and Sons)—"The earlier of them (the Legends) centres round the court of Conachar MacNessa, King of Ulster; and the centre of the power with which he is continually at war is Connacht . . . . It is in the course of this war that we have the fullest account of Ulster's special glory, Cuchulain, the Achilles of this group of Sagas, which are the work of unknown poets, rehandled no doubt by generation after generation.—Ch. II, p. 16.

[30] *Vide* E. A. Boyd : *The Contemporary Drama of Ireland*, p. 54, quoted *ante*.

[31] Of these, special mention may be made of the Shadowy Waters, and the Countess Cathleen, which were repeatedly re-written and revised for adaptation to the Stage. Of the Shadowy Waters, E. A. Boyd writes thus in pages 75-76 of his book, *The Contemporary Drama of Ireland* :

In Macmillan & Co.'s *The Collected Poems of W. B. Yeats,* the following poems have been included under the caption : Poems 'Narrative and Dramatic'.[33]

The Wanderings of Oisin (1889)
The Old Age of Queen Maeve (1903)
Baile and Aillinn (1903)
The Shadowy Waters (1906)
The Two Kings (1914)
The Gift of Harun Al-Rashid (1923)

Of these, *The Shadowy Waters* has been included as a drama in the classification list above. The others, except, perhaps *The Gift of Harun Al-Rashid,* seem to contain potential dramatic values, and will be discussed in a separate chapter towards the end of this essay.

(To be continued).

" The Shadowy Waters was first published in the North American Review, in May, 1900, and was issued with slight modifications in book form the same year. This beautiful poem . . . . was performed by the Irish National Theatre Society in 1904. He (Yeats) himself declared that the 1904 performance . . . . was an ' accident ' due no doubt to his absence in America. On his return he proceeded to re-write the play in the form published in 1906, and subsequently adopted for the collected Edition of his works. The Second . . . . was in verse, but in spite of many—too many, some say—concessions to the demands of the theatre, a condensed ' acting version ' was found necessary. Meanwhile we must content ourselves with the play which has received at least the measure of approval implied by its inclusion in the Collected Edition of 1908."

[32] *The Collected Plays of W. B. Yeats*, Macmillan and Co., Ltd., London, first published in 1934, Second Edition, with additional plays, 1952.

[33] *The Collected Poems of W. B. Yeats*, Macmillan & Co., Ltd., London, First Edition, 1933, Second Edition, with later poems added 1950.

Reviews and Notices of Books

The Cultural Heritage of India, Vol. IV (The religions) has been published by the Ramakrishna Mission Institute of Culture, Calcutta. It is a voluminous work containing 775 pages. Its price is Rs. 35 only. It has been edited by the late learned Professor Haridas Bhattacharyya, M.A, B.L., P.R.S., Darśanasāgara. It has been enriched by a befitting introduction by Bharataratna Bhagavan Das, M.A., D.Lit.

The present volume under review is a work of the combined intelligence of a band of reputed Indian scholars of various parts of the Indian union. It is encyclopaedic in its scope. It is a comprehensive stocktaking of the essentials of various religions of India. It is neither a history of the Indian Religions nor a critical study of them. But it is a valuable compendium of the treasures of the Indian Religions. Some religious movements (ancient and modern) are conspicuous by their absence. Proper attention has not been paid to Jainism. Recent contributions of Sri Aravinda to Philosophy and Religion cannot afford to be neglected. A juxtaposition of independent articles has its limitation and inherent defects which should always lie beyond the range of criticism.

In the preface of this volume the origin and the utility of diverse religions in India have been nicely discussed. The conclusion that Hinduism 'is rather a federation of different kinds of approach to the Reality that is behind life' is worth-considering.

In the learned introduction the contributor has tried his level best to prove that 'India is religion'. In India religion is not a statutory method of salvation. But it is always dynamic. It gives its adherents 'a latitude in picking and choosing materials suited to individual temperaments'. He broadly narrates all objective conditions which are responsible for the diversity of so many cults and sects of religion. He has drawn a vivid picture of bright and dark sides of royal patronage extended to religion. He ably shows the strength and the weakness of Gautama Dharma. The treatment of essentials of universal religion should have profound influence upon the adherents of all faiths. If one cares to follow it, peace will for good shine on earth. The net result of a steady religious movement in India is that 'India has succeeded in developing a degree of spirituality that is a marvel.'

In the chapter on evolution of religio-philosophic culture in India a brief history of the religio-philosophic culture in India has been treated. One gets a happy synopsis of the vast subject-matter of this big volume in an attractive manner. Every reader may not agree with him in many points such as the views of the scholars trained in the western method with regard to the beginnings of religious movement in India, the conclusion drawn by him, and a few critical remarks passed by him on a few religious movements. Still every reader is expected to bestow praises on the writer for the display of his wealth of scholarship.

Saivism, Vaiṣṇavism, Śaktism, the culture of the Tantras in its wide range, Skanda cult and the cult of the Sikh gurus have been elaborately discussed in the first part of this volume. The last article of this part bears the title 'Cult-syncretism'. It throws light on the incomplete treatment of the first part. The Saurā-cult and the Gāṇapatya-cult have found no place in this part. The spirit of religious toleration is in the blood of the Indians. They have inherited it from their vedic ancestors, Dīrghatamas. That is why animosity has not taken root in rivalry among different sects. The noble attempts of the great smārtas at reconciliation and rapprochement between the rival creeds have not found adequate recognition in this part. The great thinkers of Kashmere have contributed towards this direction. But they have got no recognition.

In spite of all its defects this part is very useful and informative. All the articles will surely infuse curiosity into the mind of readers.

In the second part of this volume the life of many saints of the different sects has been recorded in a nut-shell together with the essence of their edifying teachings. No earnest reader should miss the article "The Mahārāṣṭra saints and their teachings." This part is also incomplete. India abounds in saints. Selection is bound to invite criticism.

The third part of this volume intends to deal with the practical religious life of India. This scheme is too ambitious to be materialised. The contribution of these practices towards the spiritual upliftment has not been clearly indicated. Do they merely touch the outer fringe of religious life? Or, do they enter into the core of such life? A reader does not see the wood for the trees. But he misses the object of his quest.

The fourth part of this work invites the attention of its readers. The article "The rise and growth of Christianity in India" satisfies them to a considerable extent. They are amazed to notice the wild play of imagination of a communal mind when they come across a novel hypothesis *viz.* Sankara's indebtedness to Islam in the article "Islam in India". The object of this part remains unfulfilled since no light has been shed on the very important issue *viz.* the net result of the action and the reaction of religions from beyond the borders of India upon the various aspects of Indian life.

The fifth part of this volume is very moderate in its ambition. The selection of three reform movements to the exclusion of other movements has not been justified. The valuation of these movements has not been properly assessed. They have been mainly judged from the social point of view. Is the belief of the theosophists in India a religion? Why does their belief find a place in this volume?

The sixth part of this volume represents the doctrine of Sri Ramakrishna and spiritual renaissance. It suggests that the preaching of Sri Ramakrishna and Sri Vivekananda leads on to the concluding phase of modern religious movements in India. This part has been contributed by a worthy follower of the Ramakrishna school of thought. He has presented the bright side of his school in a fascinating manner. It appears to be self-evident to many readers that a fair criticism of this movement cannot come from such a pen though the contributor takes care to be impertial. The teachings of Sri Ramakrishna have not been properly codified. His original contribution to Philosophy and Religion has not as yet passed through the fire of criticism. The new ideology of Sri Vivekananda has not been analysed and examined. We are not in a position to say whether the new doctrine of this school is synthetic or eclectic in its character.

A few glaring problems of Indian religion remain unsolved in this volume. The decline of Buddhism in India has not been satisfactorily solved. The failure of the Indian intellect to absorb other universal religions into their religion has not been frankly admitted. People are still being converted from one religion into another religion. Religious toleration has not been as yet established. The political leaders are now anxious to establish secular state. Rivalry among different religions has taken root in India. Different sects of many religions have still their adherents. In the face of all these facts it is too bold to assert that a synthesis of all religions has been arrived at. With the advancement of scientific education religious feeling is now at a low ebb. If India cannot set her own house in order, how can she 'help the world in discovering the spirit which will unite men in building a kingdom of God upon earth.'?

Ourselves

DEATH OF MAULANA ABUL KALAM AZAD

The passing away of Maulana Azad on 22nd February at New Delhi has removed from our midst one of the most outstanding personalities in recent Indian history. In his death India has lost one of the most truly cosmopolitan of her children and also one, who was, by universal consent, in the foremost rank of her men of learning. He belonged to an old orthodox Muslim family and was born at Mecca in 1888. The early years of his life were spent in Arabia, and he received his education at the famous Al Azhar University in Egypt. But a broad, liberal and enlightened humanism was the foundation of his character, and throughout his career he never ceased to be a humanist. His liberalism was based on the love of freedom for its own sake, joined to the conviction that freedom is the best foundation for the stability of a constitution and the happiness of a people. Reliance on the power of freedom was one of the broadest of all the lessons he had learnt in life. He applied it in religious, social, as well as in political affairs. Very early in his life he started the famous Urdu journal *Al Hilal* and invited Indian Muslims to join the Congress and the freedom movement in the country. He was a man of courage and he always stood by his convictions. For over 40 years he was in the forefront of Indian public life. For full six years of this period he manfully bore the burden of the Presidentship of the Indian National Congress. It is important to remember that these years witnessed the greatest crisis in the history of the great national organisation. Maulana Azad was a miracle of learning. Of all the so-called human subjects his mastery was unequalled Learning was the business of his life. He was gifted with a singularly tenacious memory. His industry was untiring. Yet, even after making every allowance for his memory and his industry, his friends stood amazed at the range and exactness of his knowledge. It was as various as it was profound, and much of it bore on recondite matters which few men study to-day. He became the first Education Minister of Free India, and his tenure of office from 1947 to 1958 will remain a landmark in the history of education in this country. The part be played in the freedom movement of this country, and the suffering he had to undergo in the fight for freedom will inspire generations yet unborn in India. Long live Maulana Azad !

Notifications

CALCUTTA UNIVERSITY

Notification No. C.S.R./31/56

It is notified for general information that the Regulations for the Diploma Course in Museology (Chapter LVII) as set out in the accompanying pamphlet were adopted by the Academic Council on 11th September, 1956 and accepted by the Senate on 27th September, 1956.

Senate House : D. CHAKRAVARTI,
The 20th November, 1956 *Registrar.*

CHAPTER LVII

The following Regulations for the Diploma Course in Museology (Chapter LVII) were adopted :—

1. An examination for a Diploma in Museology shall be held in Calcutta annually at such time and at such places as the Syndicate shall determine, the dates and places to be notified in the Calendar.

2. Any Bachelor of Arts (B.A.) or Bachelor of Science (B.Sc.) or graduate of any of the professional or other courses of this or any other recognised University, may be admitted to this examination, provided that he has prosecuted for not less than two years a regular course of study in the subjects offered by him in the Diploma course organised and conducted by the University.

3. No candidate shall ordinarily be admitted to the examination unless he has produced the prescribed certificate of

(i) having attended in an approved institution a course of instruction of not less than 75% of lectures in the subjects offered,

and

(ii) having been engaged during a period of not less than 75% of the practical classes in acquiring a practical knowledge of the duties, routine, technical and special relating to Museum work under the supervision of proper authorities appointed and or approved by the Syndicate.

4. Each candidate for admission to examination shall send in his application to the Registrar with a certificate in the prescribed form and a fee of Rs. 100, at least three months before the date fixed for the examination.

5. Each candidate presenting for the examination shall be required to take up a special subject and submit a thesis on any Museum subject, done under the guidance of a teacher or such other person approved by the Syndicate. The subjects for the thesis shall be previously approved by the Syndicate.

6. Any graduate of this or any other recognised University, engaged in active Museum service for a continuous period of not less than three years in any recognised Museum in India or outside may be exempted from provision (3) of these regulations and permitted to appear for the eamination as may be approved by the Syndicate on the recommendations of proper Museum authorities.

7. A candidate who fails to pass or present for the examination shall not be entitled to claim a refund of the fee. A candidate may be admitted to one or more subsequent examinations on payment of the prescribed fee, which shall be Rs. 100 for each examination.

8. A candidate obtaining 35% of the marks in the aggregate in written, practical and oral examinations, shall be deemed to have passed the examination, provided that he shall not have obtained in any subject, less than 25%. A candidate obtaining 60% and above shall be placed in the 1st Class, and 50% and above in 2nd Class respectively

9. As soon as possible, after examination, the Syndicate shall publish a list of successful candidates arranged in order of merit. Each successful candidate shall be given a Diploma in the form prescribed in Appendix......, and shall be entitled to use after his name the abbreviation Diploma. Museology (Cal.) to indicate that he has passed the examination.

10. Every candidate shall be examined in the following subjects :—

Part I—General (compulsory for all candidates).

Part II—Optional (in any of the groups of the following offered by the candidate) :—

Group A
(a) Archaeology and History.
(b) Arts and Crafts.
(c) Anthropology.

Group B
(d) Geology and Geography.
(e) Zoology.
(f) Botany.

11. The Syndicate shall have power to add or to modify from time to time the extent of the course to cover other subjects falling within the scope of Museum service.

12. The distribution of marks shall be,
300 for Part I. General—three papers each 100 marks,
500 for Part II, Optional of which
300 for Theory and—three papers each 100 marks,
200 for Practical and
200 for Essay and Thesis, totalling 1000.

13. The limits of subjects for examination and study shall be as follows :—

PART I—GENERAL

1. Idea of Museum—Origin, history and classification of Museums—Comparative studies in Museums in India and abroad.

2. Methods and organisations in Museums of different categories, local Museums, Private Museums, Municipal Museums, Institutional Museums, Public Museums, *in situ* Museums, Industrial Museums, Travelling or Mobile Museums.

3. Principles of Education, with emphasis on Visual Education and General Methods of Visual Education.

4. History of Education; Museum and Education, Psychology of Education.

5. Museum and Recreation.

6. Special Museum for the children and the handicapped—organisation, servicing preparation of study groups for the blind and the handicapped, backward and defective children

7. Administration—Staff, Finance, Budgeting and Budgetary control based upon existing activities, and future plans of developments. Working hours.

8. Museum personnel. Types and duties—classification, compensation' salaries, pensions and gratuities.

9. Buildings and other constructions for Museum purposes.

(a) Materials and details of construction. Use and properties of stone, brick, tiles, cement, sand, timber, iron, etc.

(b) Constructions, elementary principles of architectural designing, lines and shapes forms, and simple designing.

(c) Knowledge of use of modern sanitary equipments, closets, basins, sinks, drinking fountains, electrical fittings, and basic principles of sanitation.

(d) Knowledge of development of Indian Architecture from the earliest to modern and parallelism outside.

(e) Relation of Buildings to surroundings—site, orientation, climate planning and selection of appropriate materials, urban and regional planning.

(f) Auditoriums, Recreation halls, Exhibition-Galleries Laboratories, Workshops, and study and research rooms—equipments and interior decorations.

10. Storage space Care and Control, Safety Fumigation, etc.

11. Reference and consultation halls and Library requirements, for records, relics and documents.

12. Methods of acquisition of objects for Museum purposes. Out-door work, field excursions, collections and field work and excavations.

13. Conservation—detailed study of the latest Museum methods and techniques employed in different fields, and for different kinds of objects, and practical work connected with them.

14. Registration of Museum objects, compilation of records and catalogues.

15. Display—The exhibition halls, their nature and construction, interior construction of halls, adaptation of show-cases, innovations, general lighting of halls, interior lighting of show-cases, decorations, background, environment of particular objects on display.

16. Lighting and Ventilation—reflections, causes of reflections and methods of avoiding them, effects of strong lights on materials exhibited causes of bleaching of colours of objects, protection measures.

17. Labelling—materials used, the fabric and style, colour of background for labels, texture of the materials used for the 'base, texts of labels, their nature to suit the very wide range of visitors—space of labels inconspicuous labels, methods of effective labelling.

18. Preservation of Museum specimens—dry and liquid preservatives in spirit and other fluids—infiltration.

19. Care and maintenance of objects displayed and in storage restoration, renovation, substitution, destruction of Museum objects, stock-taking.

20. Repairs and cleaning of objects of Art, Archaeology, Ethnology and Natural history.

21. Visitors—and to whom to cater serious, curious, casual, abnormal, organised, technical and scientific.

22. Museum education—stimulating the recreational interests of visitors by

(i) special exhibitions
(ii) popular and semi-scientific lectures,
(iii) special discussions and symposia
(iv) organising special classes on selected subjects for selected groups of visitors,
(v) guide lectures, and conducted tours in the Museum galleries,
(vi) organising childrens' galleries,
(vii) organising temporary exhibitions of topical interest.
(viii) intra- and extra-mural educational activities in collaboration with learned societies, colleges, schools and other bodies,
(ix) organising Mobile Museums, lending of Museum exhibits and specimens, packing, transport ;

23. Photography, general principles, indoor and out-door photography, photography of individual objects, group objects, sceneries and settings, Art photography stills, movies—Black & white-color—slides and film strips. **Repairing-cleaning-deluminification-storage-re-photographing,**

24. Publications and Editing—articles on current Meseum topics and affairs, preparation of bulletins, general draftmanship, Art of advertisement and lay out preparation of news items for press, precis writing, proof-reading.

25. Knowledge of teaching and technical aids in Museums educational service visual and audio-visual, and special methods for the visually handicapped.

26. General knowledge

27. Research Guidance and preparation of Thesis.

28. Related Museum Services :

1. General Information ; talks, popular lectures
2. Facilities for Luncheons, Canteen and other amenities.
3. Sales of Post-Cards, reproductions. publications, catalogues, models, plaster-casts, etc.
4. Planetariums.

PART—II

ARCHAEOLOGY

1. Background of Indian History and Culture.
2. Detailed knowledge of Indian Archaeology and Iconography
3. Knowledge of Indian Sculpture under :

1. Early Indian Sculpture Pre-historic and Chalcolithic, Pre-Mauryan and Mauryan—3 B. C.
2. Early Indian Sunga —2 B. C.
3. " " Gandhara—1 B C. — 5 A.D.
4. Andhra — 1-3 A.D.
5. Kushan — 1-3 A.D.
6 Early Gupta, Gupta, Post-Gupta—4-8 A D

7. Early Mediaeval Sculptures and Paintings—7 A.D.-12 A.D.
8. Late Mediaeval Sculptures and Paintings—12-18 A.D.
9. Modern—19-20 A.D.

4. Indian Epigraphy, types and evolution.
5. Pre-historic Archaeology—pre-historic sites and characteristic features.

6. Paleolithic, Mesolithic, Neolithic and Chalcolithic implements an other finds.

7. Metal, Ivories, Wood, Terracottas, Potteries, Beads and other antiquities.

8. Numismatics, ancient and mediaeval.
9. Minor arts and crafts, Treasure troves.

10. History and development of Indian Architecture, ancient, mediaeval and modern.

11. Preservation of old manuscripts, Antiquities in field and in Museum.

12. General knowledge of latest methods of conservation and Museum techniques.

13. Field work, archaeological excavation and exploration.

14. Very brief knowledge of latest methods of determination of "Fakes" and "Forgery" by lens, microscopes Infra-red photography, Ultra-violet radiation, polarisation, X-rays, panoramic X-radiograms by using Radio-isotopes such as Radio-iridium or Radio-thulium, etc., Spectroscopy and spectrography, quantitative analysis by molecular structure, by X-ray defraction methods, chemical tests, radiocarbon investigations, etc., Determination of age.

ART AND CRAFTS

1. General principles of Art.
2. Principles of Indian Art.
3. Principles of Western and Oriental Art.
4. Principles and characteristics of Indian Paintings.
5. Evolution of Art, Indian and Foreign-Pre-historic ancient, classical, mediaeval.
6. Modern and abstract Art.
7. Frescoes and Murals.
8. Textiles—Silks and other fabrics, Embroideries, Brocades, etc.
9. Pottery, Terracottas, Wood-carvings, Ivory, Bronzes, Leather, Silver and Gold metal art Wares.
10. Illuminated manuscripts—palm leaf; paper; bark, etc.
11. Inlaid works, pith-works, lino-cuts, stencil-work, etc.
12. Industrial and Commercial Art.
13. Folk-art, "Pata", "Sara" Clay dolls and toys.
14. Preservation, restoration, repair and maintenance of Art objects, paintings, manuscripts, textiles, etc.

ANTHROPOLOGY

1. General outline of Anthropology and Ethnology of India.
2. General knowledge of Racial and Cultural history of India.
3. Comparative Anthropology and Ethnology.
4. General regional geography in so far as they determine human activities with reference to Anthropology.
5. Group life in various regions and environments and adaptations.
6. General knowledge of Pre-historic Archaeology, Paleolithic and Neolithic implements, etc.
7. Physical, social and cultural Anthropology.
    (*i*) Comparative Anatomy of Primates, Human Paleontology, and evolution.
    (*ii*) Primitive types, distribution in space and time.
    (*iii*) Culture of primitive types.
    (*iv*) Racial pre-history.
    (*v*) Society-social customs and manners.
    (*vi*) General principles of Human heredity.
8. Anthropometry and knowledge of the uses of the Instruments in Anthropometry such as Calipers, craniometers, pelvimeters, slide compass, metric tapes, Mollisons goniometer, colorimeter, etc.
9. Knowledge of implements and their method of use as for cultivation, hunting, fishing, weapons of war and chase, weapons of defence, etc.

genesis, structure, India.

4. Ores, their mode of occurrence in space exploration.

5. Paleontology and stratigraphy and organic evolution.

6. Distribution of minerals and ores in relation to Industrial activities, prospecting and development of economic mineral deposits.

7. Economic Geology—general knowledge of India.

8. General regional geography special region Asia.

9. Knowledge of Geological mapping, examination of minerals and rocks and ores and description of the same, preparations by sectioning, grinding and Microscopical and polarisation studies.

10. Applied aspects of Geology.

11. General Geology—Volcanoes, Earthquakes, Glaciers, River-basins. Oceanic beds, etc.

12. Paleo-botany.

ZOOLOGY

1. General principles of Zoology, and History of Zoology.

2. Characteristics of living matter, and difference between the living and the non-living.

3. General morphology of cells, types of cells, cell divisions tissues and organs.

4. Evidence of theories of evolution.

5. Origin and distribution of animals in space and time, important animals, Horse, Elephant, Reptiles, Birds, etc.

6. Classification and chief characteristics of each phylum, as Protozoa, Porifera, Coelenterata, Plety-helmenthis, Nemothelminthes, Annelids, Echinoderms, Arthropoda Mollusca, Chordata.

7. Binomics—Structure and life-history studies of selected Indian fauna, with reference to parasites, social insects, Fisheries, etc.

8. Histology, Embryology and genetics.

9. Dissections and Microscopic preparations, and micro-techniques.

10. Applied Zoology—Animal kingdom with special reference to Agriculture, Animal husbandry and Farm Management, system of breeding pedigrees and herds, Live-stocks (Cattle, Sheep, Goat, Poultry), Fisheries and knowledge of other aspects of economic zoology as Pearl Oyster Fisheries, Chank Fisheries, Cod and Shark Fisheries—their products and marketing.

11. Microscopy, Microtomy, Photography and Photomicrography and principles of staining, mounting preparation of sections.

12 General regional geography.

13. The climate, weather type and distribution of animals.

14. Detailed knowledge of bones of animals, their articulations, muscular attachments, knowledge of skeleton system and Anatomy.

15. Entomology and Economic aspects.

16. Study of skins, skinning, mounting of birds and reptiles and other animals, Fishes and other groups.

17. Bleaching of Bones, loose and mounting of skeletons of various groups.

18. Half-body and whole and half-skeleton mounting techniques.

19. Habitat Groups—in special regions in India, Deserts, Himalaya Shore-Fauna, etc.

20. Plaster cast mounts, moulds and finish.

21. Collection and preservation of various groups, insects, butterflies, scales, lizards, birds and animals.

22. Wild life preservation.

BOTANY AND AGRICULTURE

1. General principles of living and non-living. Phenomenon of life, difference between the vegetable and animal kingdom, general biology and evolution of organisms.

[illegible] crop husbandry, [illegible] knowledge of tilling, manuring, [illegible] crops, fodder and forage, fibre, pulses, oil, [illegible] and vegetables, etc.

9. General knowledge of Plant pathology.

10. General principles of cytology and plant breeding.

11. Evolution and heredity—Principles of genetics and Mendalism.

12. General regional geography, with particular reference to India and neighbourhood.

13. Plant geography, group life in various regions and environments and adaptations to environments, climate weather and soil conditions and their effects on natural vegetation, plant ecology, associations and communities classification of principal forest types, plant dispersal and distribution.

14. Economic Botany—Economic plants with reference to Agriculture, Horticulture, Forestry, Fibres, Medicinal, Forest products, major and minor, Oil Seeds and oil-yielding plants, Gums and resins, Dyes and tanning materials perfumery and cosmetics, raw products, matting and basketry materials, paper and paper-machine materials, raw products used in various other industries.

15. Microscopical and microtom studies of plants and plant materials, staining and micro-chemical plant techniques, photography and photomicrography.

16. Field collection, exploration of plant species, preservation, preparation of dried and fluid plant-specimens, Herbarium and Museum techniques.

The above regulations will take effect from the examination of 1958.

CHAPTER XXXVII-E

The following revised Regulations and Syllabus for the Diploma Course in Social Work (Labour Welfare) were adopted :—

" (a) The written examination shall consist of eight papers instead of six as at present, the two additional papers of 100 marks each being (1) 'Laws relating to Industries—Part II' and (2) ' Personnel Management.'

(b) To be placed in the First Class a candidate shall obtain 66% of marks in aggregate instead of 60% of marks as at present.

(c) The subject 'Laws relating to Industries' be divided into two papers of 100 marks each and shall have the following syllabus" :—

" Laws relating to Industries—Part I

First Half

Powers of the Central and Provincial Governments in the matter of framing legislations affecting Industry and Labour.

The Indian Factories Act, 1948.
The Plantation Act, 1954.

Second Half

The Indian Mines Act.
Indian Dock Labour Act.
Shops and Establishment Act.

Laws Relating to Industries—Part II

First Half

Trade Union Act.
Industrial Dispute Act.
Payment of Wages Act.

Second Half

Minimum Wages Act.

Employees' State Insurance Act including Workmen's Compensation Act and other relevant Acts as may be added from time to time."

" The object of teaching the subject of Laws relating to Industries is to appreciate the general bearings of the laws in the relationship between the three parties, *e.g.*, Employers, Employees and the State.

'Industrial Statistics Act 1942' be added to the list of topics in subject of Statistics."

" (*d*) The syllabus of the ' Personnel Management ' courses be as stated below."

Personnel Management

Introduction—Conditions necessary for establishment of industries—sources of capital—location of industries. Socio-economic changes brought about by growth of industries—social responsibilities of industries towards employees—General idea of the Profit and Loss Accounts and Balance Sheets. Objects for the enactment of the Indian Factories Act and the Indian Companies Act—Managing Agency System—Historical development of Personnel Management in India and abroad—purpose and context of a Personnel Policy—Cost of a Personnel Department relationship with other Departments.

(1) Recruitment—Man-power requirement of industry—job analysis—job description—job specification—job relation—job evaluation. Sources of Labour supply—Relation with Employment Exchange—Contacts with Heads of Schools and Colleges in order to facilitate recruitment; Interviewing Trade tests—Selection—Medical Examination—Placement—Introduction of new starters to foreman; Follow up of new starters; Contact of employment—Maintenance of employee records—Personal Statistics; Merit rating—Grading of employees—Promotion—Transfers—Retirement—Termination of employment procedure. Hours of work and overtime legislations relating to employment; Discipline—Methods of dealing with breaches of works rules; labour turnover—causes and analysis. Attendance at appropriate Committees relating to employment; Work Hand-book.

(2) Wages—Formation and maintenance of the Company's Wage structure, determination of minimum wages—Wage Committee—Authorised changes in individual rates; Assessment and control of differential rates and special payments; implementing Tribunal awards and voluntary wages agreements bonus system; Workroom and individual efficiencies; Consultations with time study or outside consultations in respect of incentives; Authorization of deduction from wages; Advance on wages; Workmen's compensation.

(3) Joint consultation—Negotiation with trade Unions; Conciliation and Arbitration Procedure; Joint consultations, *i.e.*, Joint Production Committees, Works Committee, etc. Procedure for ventilating and dealing with Workmen's grievances; Industrial unrest—Trade dispute—conciliation and arbitration—Industrial relations at Factory. Statutory machineries for the avoidance and settlement of Disputes; The work, object and the achievements of the International Labour Organisation.

(4) Welfare (Employee Service)—Administration of Canteen Policy (Meal Service, Special Diets, Tea Breaks); Benevolent and Savings Schemes, Home Nursing; Protective clothing; Ration shops—Registration of ration cards; Co-operative Societies; Gratuity of Loans; Legal heirs; Remittance facilities; Maintenance of contact with outside Association; Visit to other Works, etc; Advice on Individual Problems; Orphanage, Pit-head Baths; Transport, Housing, Billeting, Shopping and other assistance, allotment of Houses, Line Committee, Industrial Housing Schemes; Administration of industrial colony; Marketing facilities; Provision of Social and Recreational Facilities; Music at Works; Sanitary Cloakrooms, Toilet and Washing facilities.

(5) Health and Safety Application of provision of Factories Act; Contact with Factory Inspectors; Liaison with Works Medical Staff; Arrangement

(in co-operation with Medical Service) of Medical Examination of Employees and facilities for women workers, Health Records, Supervision of hazardous jobs, sick visiting and Convalescence; Control of communicable diseases amongst employees, etc. Fatiguer Studies and Rest Pauses; Lighting, Heating, Ventilation, Accident prevention and Supervision of Safety Committees, Systematic Plant Inspection, Safety Education and Propaganda Safety Regulations, Investigation of Accidents, Accident Statistics, etc. Administration of Workmen's Compensation.

(6) Education and Training—Problem of illiteracy—Programme for adult education—education for workers' children, Advantages of education and training; Training of new entrants, apprentice, employees for transfer and promotion, instruction, supervisor—Contact with local education. Authorities, Government Training Centre Officials, Technical College Officials, Further education through attendance at Technical and Evening Institutes, Evening Classes, Lectures, Films, dramatic, Musical and other Societies; supervision and control of Notice Boards and Information Bulletins, Employee Handbook, Supervisors' Mannual; suggestion schemes; Works tours, Library, Works Magazine."

Note.—The relevant Regulation as amended will read as follows :—

"(7) The written papers shall consist of eight papers and the Oral Examination of four papers of 100 marks each.

In order to pass, a candidate must obtain 40 per cent of marks in each paper and 50 per cent of marks in the aggregate. Candidates obtaining 66 per cent of marks in the aggregate shall be placed in the First Class and those obtaining 50 per cent or more in the Second Class."

The papers will be renumbered as follows :—

Paper I	...	Sociology.
Paper II	...	Applied Economics.
Paper III	...	Laws relating to Industries (Part I)
Paper IV	...	Laws relating to Industries (Part II).
Paper V	...	Statistics
Paper VI	...	Personnel Management.
Paper VII	...	Social and Industrial Psychology.
Paper VIII	...	Public Health Administration and Sanitary Laws.

The above changes in the Regulations and Syllabuses have taken effect from the examination of 1957.

Statutes and Ordinances regarding the composition, Powers and Duties of the Council of the University College of Medicine, the Executive Committee and the Managing Committee.

(1) The University shall provide for Post-Graduate Teaching, Study and Research in Medical Science in the University College of Medicine. Post-Graduate teaching in Medical Science in Calcutta shall be conducted in the name and under the control of the University as hereinafter provided.

Explanation—The term 'Post-Graduate' as used in this Part has reference only to the examinations for the degrees of Doctor of Medicine. Master of Surgery and Master of Obstetrics, D.Phil., and the Post-Graduate Diplomas and such other Degrees and Diplomas in various branches of Medical Science as may be determined by the Senate from time to time by Statutes, Ordinances and regulations framed in this behalf on the recommendation of the relevant Bodies in the University.

1. The management of the University College of Medicine shall vest in a Council. The Council shall—

Statutes : Powers of the College Council

(*i*) draw up the constitution of each department after exploring the facilities available from the different Medical Colleges and institutions at the initial stage ;

(*ii*) plan and co-ordinate Post-Graduate teaching in different Medical Colleges and Institutions ;

(*iii*) inspect departments in the Medical Colleges and institutions and assay suitability for the teaching of Post-Graduate subjects ;

(*iv*) arrange lectures, demonstrations and teaching for students of Post-Graduate Studies ;

(*v*) co-ordinate research work undertaken by Medical Colleges and Institutions in branches of the medical sciences in co-operation with the Indian Council of Medical research or other organisations of similar nature in India and abroad ;

(*vi*) organise and provide a Central Medical Library and Library Service for the benefit of all, undertaking study, research or teaching in medical science ;

(*vii*) organise and provide a Central Museum for the benefit of all, undertaking study, research or teaching in medical science ;

(*viii*) make recommendations to the University for securing financial grants for equipping and maintaining Post-Graduate Departments in the recognised Medical Colleges and Institutions.

(*ix*) recommend to the Accademic Council regarding recognition of Teachers for Post Graduate Medical Studies ;

(*x*) recommend to the Syndicate stipends and honoraria for higher medical education or research ;

(*xi*) obtain facilities in other institutions in India and abroad for Post-Graduate Study and research in subjects which may not be available in the institutions in West Bengal ;

(*xii*) distribute the funds at its disposal, pooled from different sources, to the component units of the respective Departments according to their needs and requirements ;

(*xiii*) deal with any other matter calculated directly or indirectly to improve higher medical education and research.

The Council shall have power to make decisions in all matters concerning the management of the college subject to confirmation, revision or modification by the Syndicate; provided that the Council shall have power to make whenever necessary temporary teaching arrangements within the Budget grants with the previous permission of the Treasurer for a period not exceeding one year in any case.

Statute : Composition of the College Council.

2. The Council of the University College of Medicine shall consist of :—

(*a*) President	...	Vice-Chancellor (Ex-Officio).
(*b*) Vice-President	...	To be appointed by the Vice-Chancellor from among the Heads of the Departments of the University College of Medicine.

(*c*) Heads of the Departments of the University College of Medicine.

(*d*) Heads of the different Post-Graduate Units of different Medical Colleges and Institutions recognised by the University for this purpose

(*e*) Three representatives of the Senate elected by the Senate from among its members.

(*f*) One representative of the Academic Council elected by the Academic Council from among its members.

(*g*) One representative of the Syndicate elected by the Syndicate from among its members.

(*h*) The Dean of the Faculty of Medicine and one representative of the Faculty elected by the Faculty from among its members.

(*i*) Dean of the Faculty of Science.

(*j*) Chairmen of the Boards of Post-Graduate Studies in Medicine.

(*k*) Director of Health Services (Ex-Officio).

(*l*) Director of Veterinary Services (Ex-Officio).

(*m*) President of the West Bengal Medical Council.

(*n*) President of the West Bengal Dental Council.

(e) Heads of the Different Medical Colleges and Institutions recognised for the purpose (unless included in (d).

Provided that a person coming under clause (c) or clause (f) or clause (g) or clause (h) shall not be a member of more than one College Council.

The terms of office of the Vice-President and of the elected members of the College Council shall be three years.

Statute Executive Committee its duties.

3. There shall be an Executive Committee of the College Council composed of as follows :—

(a) Vice-Chancellor—Chairman.

(b) Heads of the Departments of the University College of Medicine.

(c) Heads of the different Medical Colleges and Institutions recognised for this purpose.

(d) Dean of the Faculty of Medicine.

(e) Director of Health Services, West Bengal.

(f) Two representatives of the teachers of Post-Graduate Departments of the college to be elected by the teachers from amongst themselves.

The Proceedings of the Executive Committee are subject to confirmation by the Council.

Ordinances : Heads of Departments.

4. (1) There shall be a Head of each Department appointed by the Executive Committee, provided that for the first time for three years they shall be appointed by a Committee consisting of the Vice-Chancellor, Director of Health Services, Dean of the Faculty of Medicine and two members of the Syndicate.

(2) For Co-ordination of teaching in each particular subject there shall be a Board of Studies consisting of teachers in that subject and a Chairman as envisaged in the Statutes relating to Boards of Post-Graduate Studies.

5. There shall be a Managing Committee for each Department under the University College of Medicine. The Committee shall be composed as follows :—

(a) Head of the respective Department.

(b) Heads of respective Post-Graduate Units of different Medical Colleges and Institutions recognised for the purpose.

(c) Two representatives of the teachers of the respective Department elected by the teachers of the Department from amongst themselves.

The respective Managing Committee for each Department shall

(a) assign students requiring teaching and training for Post-Graduate Degrees and Diplomas in Medical College and Institutions recognised for the purpose.

(b) make arrangements for working of Post-Graduate Diploma courses in Medical Colleges and Institutions recognised for the purpose.

(c) recommend courses of studies for students qualifying for M.D., M.S., M.O., D.Phil. and for Post-Graduate Diplomas

(d) submit to the Executive Committee the account of resources and requirements of each Department submitted to it by the respective Department.

(e) take up other matters calculated to improve higher medical education and research relevant to respective Departments.

6. The teaching staff for the University College of Medicine shall consist of (a) Teachers appointed and paid by the University ; (b) Teachers whose services are, on the application of the University, lent from time to time by the Provincial or Central Government or by an Institution and who during the time they work under the University are University teachers; (c) Teachers in Medical Colleges and Institutions whose attainments specially qualify them for Post-Graduate instruction and who undertake at the request of the University and for remuneration decided on by it, to deliver a course of lectures on selected topics; teachers in Colleges and Institutions whose attainments specially qualify them for Post-Graduate work, and who shall be recognised by the University as Extra-Mural Lecturers, (d) persons engaged in other than education work who undertake, at the request of the University and for a remuneration decided on by it, to deal with special subjects in which they are authorities.

They may be whole time teachers or part-time teachers.

Explanation—(1) A teacher of the University means a Professor, Reader, Lecturer or any other person holding a teaching post, appointed or recognised by the University;

(2) If a question arises whether a person holds a teaching post within the means of Section 2 (1) of the Act, the matter shall be referred to the Vice-Chancellor whose decision shall be final.

7. There shall be a Secretary to the Council of the University College of Medicine.

8. There shall be permanent ministerial staff and permanent lower subordinate staff attached to the College and the departments, who shall be appointed according to the rules framed by the Syndicate from time to time and whose number and scales of pay shall be determined by the Syndicate.

Meeting of the College Council. 9. The College Council shall meet ordinarily once in three months and as often as it may be convened by the President.

10. The President or in his absence the Vice-President shall preside at meetings of the Council, If both the President and the Vice-President are absent, the members present shall elect one of them to be the Chairman.

11. One-third of the total number of members be a quorum.

12. Seven clear days' notice shall be given for an ordinary meeting of the Council and three days' for an emergency meeting.

13. Subject to the control of the President, the Vice-President shall give effect to the decisions of the Council and carry out the orders of the Syndicate and exercise such power as the Syndicate may confer.

14. Regulations Chapter XVI—On Post-Graduate Teaching in Medicine stands repealed with the introduction of the statutes and Ordinances relating to the University College of Medicine.

Col. I	Col. II
(6) University College of Medicine	1. Anatomy.
	2. Physiology, Biochemistry and Biophysics.
	3. Pharmacology.
	4. Pathology, Bacteriology and Medical Zoology.
	5. Cancer Research.
	6. Cardiology.
	7. Child Health.
	8. Dermatology
	9. Diseases of the Chest.
	10. Neurology.
	11. Experimental Surgery.
	12. Urology.
	13. Chest Surgery.
	14. Neuro Surgery.
	15. Orthopaedics.
	16. Obstetrics and Gynaecology.
	17. Ophthalmology.
	18. Radiology and Radio Therapeutics.
	19. Preventive and Social Medicine and such other subjects as may be added to by the Senate on the advice of the Academic Council from time to time.

Consequential Changes

1. In Statute 1 (*a*) *re* University Colleges (p. 108) line 5, replace the word 'five' by 'six' and insert "(6) University College of Medicine" after "(5) University College of Law."

2. In Part I Statute 2 (p. 108) omit 'and' in the second line, put a comma in its place and add after 'IV' 'and Va'.

3. In page 108 under Part II insert and the Council of the University College of Medicine "after the "University College of Law" in the brackets at the top of statute 3.

4. In Part III Statute 5 (I) (p. 109) replace 'two' by 'Three' and add the following after (*ii*).

(*iii*) One Secretary for the University College of Medicine.

5. In page 113, insert the new statutes and ordinances *re* the University College of Medicine as Part V (A) after "Part V."

6. In page 116 add "and University College of Medicine" after "University College of Law" in the title under Part A, second schedule to ordinance 35 *re* University Colleges.

CHAPTER—XLIV

FIRST M.B.B.S. EXAMINATION

1. Any undergraduate of the University may be admitted to this examination provided he has fulfilled the following conditions:—

(*a*) That he has attained the age of seventeen years on or before 31st December of the year of his admission into a college of Medicine affiliated to the University.

(*b*) That he has passed the Intermediate Examination in Science with Physics, Chemistry and Biology.

(*c*) That he has attended a regular course of study, Theoretical and Practical, for not less than two years at a College of Medicine affiliated to the University up to the standard of the First M.B.B.S. Examination, subject to the provision in clause 3 below.

2. The examination shall be held twice in each year, ordinarily in May and November, and shall commence on such dates as the Syndicate shall determine. Every candidate for admission to this examination shall send to the Registrar his application with a certificate in the form prescribed by the Syndicate and the fee of Rupees Fifteen for Part I, Rupees Thirty-five for Part II or Rupees Fifty for Parts I and II, at least twenty-one days before the date fixed for the commencement of the Seminar Examination. No separate fee will be charged for the Seminar Examination. A candidate who fails to pass or present himself for examination shall not be entitled to claim a refund of the fee, but he may be admitted to one or more subsequent examinations on payment of the prescribed fee on each occasion on producing a certificate that he has, since the date of the last examination and within six months preceding the examination at which he intends appearing, attended to the satisfaction of the Principal of the College a further course of study in the subject or subjects for that examination in which he had failed.

3. The First M.B.B.S. Examination shall be divided into two Parts as shown below—

Part I—Organic and Physical Chemistry.
(This may be taken at the end of the first year).

Part II—(*i*) Anatomy.
(*ii*) Physiology.

The examination shall be Written, Oral and Practical.

The examination in Organic and Physical Chemistry shall consist of—

(*a*) One Theoretical Paper,
(*b*) A Practical Examination, and
(*c*) An Oral Examination.
The examination in Anatomy shall consist of—
(*a*) Two Theoretical papers,
(*b*) A Practical Examination, and
(*c*) An Oral Examination.
The examination in Physiology shall consist of—
(*a*) Two Theoretical Papers,
(*b*) A Practical Examination, and
(*c*) An Oral Examination.

Three hours shall be allowed for each paper in each subject

Candidates who passed the B.Sc. Examination in Chemistry shall attend the theoretical and practical classes and shall have to pass the examination in the subject like those who have passed the I.Sc. Examination.

4. (*i*) In addition to the Regular University Examinations, Seminar Examinations, which shall be College-cum-University Examinations, shall be held once a year in each subject, six weeks before the regular University Examinations in May and to make the Seminar Examinations feasible, the Medical Colleges shall follow the chronological order laid down in the syllabus of studies. Candidates shall appear in one Seminar Examination in a subject where the course of study is for one year and at two Seminar Examinations where the course of study is extended for two years.

(*ii*) The Seminar Examination shall be conducted by and at the college in which the candidates take their training. It will consist of an Oral and a Practical examination in each subject.

(*iii*) Twenty-five per cent of each Oral and Practical Examination full marks in each subject at the Final University examination shall be allocated to each Seminar Examination. Marks obtained in a subject by a candidate at the Seminar Examination will be added to the marks obtained in that subject at the University Examination for final assessment. In assessing marks at the Seminar Examination the examiners shall take into account the records of the work done in the Practical classes by the students during their period of study which should be duly attested by the teachers in the subjects in Part I and Part II.

(*iv*) There shall be 50 per cent. external examiners from sister colleges under the University for the Seminar Examinations.

5. In order to pass the First M.B.B.S. Examination a candidate must pass in all subjects of Part I and Part II.

A candidate who fails to pass or to appear in Part I and/or Part II may appear in the subject or subjects in which he failed to pass or to appear at subsequent examinations provided that the two parts of the examination shall be completed within a period of nineteen months from the date when the complete examination becomes due for the first time.

After this period of nineteen months, a candidate will be required to prosecute a further course of study in all subjects of Part I and Part II to the satisfaction of the Principal of the college.

6. As soon as possible after the examination the Syndicate shall publish a list of successful candidates arranged in alphabetical order. Every candidate shall, on passing, receive a certificate in the form entered in Appendix A. Candidates who obtain at least 75 per cent. of marks in any subject shall be deemed to have passed with Honours in that subject, provided the candidate has passed in all parts of the First M.B.B.S. Examination in his first attempt.

On the recommendation of the examiners in a particular subject a Gold Medal may be awarded to a candidate who has particularly distinguished himself in Honours in that subject for that examination.

7. The full marks including marks of Seminar Examinations, for each subject and the minimum marks required for passing shall be as follows:—

	Written Full Marks	Oral Full Marks	Written and Oral Pass Marks	Practical Full Marks	Practical Pass Marks	Total Full Marks	Total Pass Marks
Part I—							
Organic and Physical Chemistry.	100	50	60	50	25	200	100
Part II—							
Anatomy ...	200	100	120	100	50	400	200
Physiology ...	200	100	120	100	50	400	200

8. The course of study for the First M.B.B.S. Examination shall be as follows:—

(*i*) Organic and Physical Chemistry.
(*ii*) Physiology.
(*iii*) Anatomy.
(*iv*) Introduction to normal Psychology.

Note.—The demonstration of structure and function in the teaching of Anatomy and Physiology should be correlated and done as far as possible on the living subject and should include information obtained from Radiology. No examination in subject (*iv*) will be held at this stage.

9. The minimum number of lectures and Practical classes will be as follows:—

I. Organic and Physical Chemistry—Lectures, 40. Practical classes, 25 (of two hours each).

II. Anatomy—(*a*) Lectures—100 (2 courses of 50 lectures each).

(*b*) Dissection of the cadaver and study of the dissected specimen.

(*c*) Practical classes on Micro-Anatomy—25 (of two hours each).

III. Physiology.

(*a*) Lectures—100 (2 courses of 50 lectures each).

(*b*) Practical classes in Biochemistry—25 (of two hours each).

(*c*) Practical classes in Experimental Physiology—25 (of two hours each).

Each year shall be divided into two terms, *viz.*, Summer term from January to June and Winter term from July to December.

10. The following are the Syllabuses for the subjects mentioned in rule 8 above and they may be modified by the Academic Council from time to time on the recommendation of the Board of Undergraduate Studies in Medicine and the Faculty of Medicine.

(I) ORGANIC AND PHYSICAL CHEMISTRY

ORGANIC CHEMISTRY

Theoretical

Definition and recognition of Organic Compounds. Isolation and purification of Organic Compounds. Criteria of Purity—determination of melting and boiling points.

Composition of Organic Compounds. Detection of the elements—Carbon, Hydrogen, Nitrogen, Sulphur, Phosphorus, Arsenic and the Halogens in Organic Compounds.

Quantitative analysis. Determination of molecular weight, Determination of formulae.

Isomerism, Metamerism, Polymerism, Tautomerism and Stereo-isomerism, Optical activity.

Hydrocarbons—Saturated (Ethane and Methane) and unsaturated (Ethylene and Acetylene). Halogen derivatives—Chloroform, Carbon tetrachloride and Iodoform.

Alcohols—Saturated and Unsaturated (Methyl, Ethyl, Glycerol and Allyl).

Ethers—Ethyl Ether.

Aldehydes—Formaldehyde, acetaldehyde and chloral.

Ketones—Acetone.

Fatty acids—Saturated (formic, acetic, butyric, palmitic and stearic) and Unsaturated (oleic, linoleic and linolenic acids).

Lactic, oxalic, tartaric and citric acids.

Glycuronic acid.

Amino-acids—glycine, histidine, leucine and tyrosine.

Acetyl chloride and acetic anhydride.

Esters—ethyl acetate and amyl nitrite.

Amines and Amides—ethylamine, histamine and acetamide.

Fats, oils and waxes—specially those relating to foodstuffs and medicine. Hydrogenation. Saponification. Sterols.

Carbohydrates—glucose, fructose, cane sugar, lactose, maltose, starch, dextrin, glycogen, inulin and cellulose.

Cyanogen compounds—Hydrocyanic acid, Cyanides and Ferro-cyanides.

Uric Acid and Caffeine and their general reactions.

Aromatic Compounds—Preparation and properties of Benzene, Toluene, Benzene—sulphonic acid, Nitrobenzene, Aniline, Benzyl-alcohol, Benzaldehyde, Mandelic acid, Benzoic acid, Salicylic acid, Phenol, Resorcinol, Pyrogallol and Gallic acid. Tannic and picric acids, Naphthalene.

Heterocyclic—Pyridine, Quinoline and Pyrrole.

Alkaloids—Sources and general properties of Quinine, Morphine and Atropine.

Glycosides—general properties of Amygdalin and Digitoxin.

A general knowledge of proteins and enzymes.

N.B.—The whole course of Organic Chemistry will be treated in an elementary way and, as far as possible experimentally, with special reference to the needs of medical students.

Practical

Practical demonstrations, where feasible, on crystallisation, vacuum and steam distillations, determination of melting and boiling points, polarimetry and determination of pH.

Individual work by the students on—

1. Detection of C, H, N, S, P, As and the Halogens in Organic Compounds.
2. General reactions and tests for methyl alcohol, ethyl alcohol, glycerol, chloral, ethyl-ether, formaldehyde, acetaldehyde, acetone, chloroform, carbon tetrachloride, iodoform, cyanides, glucose, sucrose, lactose, maltose, starch, dextrin, urea, uric acid; formic, acetic, oxalic, lactic, tartaric, citric, benzoic, salicylic, gallic and tannic acids and phenol.
3. Preparation of Osazones.
4. Saponification of fats and oils, preparation of fatty acids.
5. Quantitative estimation of glucose and uric acid.

N.B.—In assessing marks at the Seminar Examination the examiners will take into account the records of the Practical work of the candidate duly attested by the Professor.

PHYSICAL CHEMISTRY

A short course which shall include the study of the following:—

Theory of solution, Ionic theory, Electrolytes, Hydrogen-ion concentration and pH. Buffers, Colloids, Adsorption. Osmosis, Surface tension, Catalysis, Mass action and Reversible reactions, Radio-activity. Isotopes.

(II) PHYSIOLOGY

Theoretical

First-year—(Winter Term)

(1) Introduction:

Fundamental phenomena of life. The cell and its differentiation. Tissues and organs of the body.

(2) Biochemical principles:

Elementary constituents of protoplasm. Chemistry of Proteins, Carbohydrates and Lipides.

(3) Biophysical principles:

Osmotic pressure. H-ion concentration. Neutrality regulation. Properties of colloids. Adsorption. Electrical Phenomena in living tissues. Enzyme action and Catalysis.

(4) Nerve Muscle Physiology:

Excitation process in a nerve and its propagation. Changes undergone by a nerve on stimulation. Polarisation Phenomena in nerve. Electrotonus. Reaction of Degeneration. Neuromuscular transmission. Different types of muscles in the body. Changes on excitation and nature of the contractile process. Physiology of muscular exercise.

(5) Alimentation. Metabolism, Nutrition and Dietetics:

Normal diets. Vitamins. Milk—its properties. The digestive organs and their structure and functions. Gastrointestinal hormones. Liver. Movements of the alimentary canal. Absorption of the foodstuffs and their metabolism. Biological value of proteins. Blood sugar and its regulations. Mineral metabolism and Metabolism during starvation. Nutrition of an individual.

First-year—(Summer term)

(6) The Circulatory System:

Blood. Regulation of blood volume and its determination. Specific gravity of blood. Reaction of blood and its regulations. Composition and functions of blood plasma. Plasma proteins—their origin and functions. Red bone marrow. Origin, composition, fate and functions of the formed elements. Chemistry of haemoglobin and its compounds and derivatives. Coagulation of blood. Haemolysis. Blood Groups.

Heart:

Structure and properties of cardiac muscle. Cardiac cycle. Action of valves. Heart sounds. Apex beat. Endocardiac pressure. Nutrition of the heart and Coronary circulation.

Electrocardiogram. Output of heart. Origin and propagation of the cardiac impulse. Nervous regulation of heart. Cardiac reflexes.

Vascular system: Course and Circulation of blood. Structure of arteries, capillaries and veins. Peculiarities of Cerebral, Pulmonary, Hepatic, Portal and Renal circulations. Time of complete circulation. Velocity of blood flow. Pulse—arterial and venous. Innervation of blood vessels and control of circulation. Blood pressure and its regulation. Control of capillary circulation.

(7) The Reticulo-endothelial System: **Spleen--Lymphatic** glands.

(8) Tissue Fluid. Lymph and tissue fluids, Oedema.

(9) The Respiratory System:

Anatomy and minute structure of the respiratory organs. Mechanism of respiratory movements. Spirometry. Chemistry of respiration. Composition of inspired, expired and alveolar air Respiratory quotient. Basal Metabolism. Gases in blood and their tension. Transport of oxygen and carbon-dioxide in blood. Mechanism of external and internal respiration. Control of respiration. Cheyne-Stokes respiration. Apnœa, Dyspnœa, Anoxia, Cyanosis, Asphyxia. Effects of high and low atmospheric pressure. Acclimatisation. Mountain sickness. Caisson disease. Artificial respiration. Effects of respiration on circulation.

Second-year—(Winter term)

(10) The Sense Organs:

General features. Classification of sensations. Sensory end organs. Sensory pathways.

(*a*) Vision—Anatomy of the eye. Errors of refraction and their correction. Mechanism of accommodation. Structure and functions of the coats of the eye-ball. Ocular reflexes. Visual field. Visual pathway. Colour vision. Colour blindness. Binocular vision.

(*b*) Hearing—Structure of auditory apparatus. Conduction of sound waves. Helmholtz Theory. Cochlear response. Vestibular apparatus.

(*c*) Taste and Smell—Structure and function of the receptor organs.

(*d*) Cutaneous and Deep Sensation—Structure and function of the receptor.

(11) Voice and Speech. Anatomy of the larynx. Mechanism of the production of voice and speech.

(12) The Endocrine organs:

(13) Reproduction:

Primary and secondary—Sex organs and secondary sex characters. Mammary gland and prostate. Placenta and its functions. Foetal respiration and circulation.

Second-year (Summer term)

(14) The Excretory System:

Kidney: Formation and chemical composition of urine. Structure and functions of the Kidney. Constituents of Urine—normal and abnormal. Volume of urine. Physiology of micturition. Renal efficiency tests.

(15) The Integumentary System:

Structure and functions of the skin. Formation, composition and secretion of sweat and sebum. Body temperature and its regulation.

(16) The Nervous System:

General features of the central nervous system. Structure and functions of the spinal cord. Reflex action in animal and in man. Reciprocal innervation. Structure, connection and functions of the Midbrain, Pons and Medulla. Functions of the Corpus Striatum, Thalamus, Hypothalamus. Distribution and functions of cranial nerves and spinal nerves. Structure, connections and functions of the cerebrum and cerebellum. Localisation of functions of the cerebral cortex. Conditional reflexes. Cerebrospinal fluid. The autonomic nervous system. Chemical transmitters. Regulations of posture and equilibrium. Labyrinthine sensations.

PRACTICAL

A. Biochemistry (Practical).

The chemical tests of proteins and their cleavage products. Emulsification and saponification of fats. Tests for glycerol, cholesterol. General reactions and distinguishing tests for mono-di and polysaccharides of physiological importance. The qualitative analysis of milk, and Composition of saliva. Examination of gastric contents and the estimation of total acidity, free HCl and combined acid. Actions of ptyalin and pepsin. Haemoglobin, its principal derivatives and compounds. Chemistry of blood and bile. Detection of substances of Physiological importance.

Urine—Examination of normal and abnormal constituents and of urinary sediments. Quantitative examination for sugar, chlorides, phosphates, urea and albumin.

B. Biochemistry (Demonstration).

Blood—Quantitative estimation of glucose, NPN, urea, uric acid, creatinine, calcium, cholesterol.

Urine—Estimation of ammonia, uric acid, creatinine and acetone bodies.

Chemistry of cerebro-spinal fluid. Analysis of inspired, expired and alveolar air. Use of Douglas bag. Polarimeter. Colorimeter.

C. Biophysics (Demonstration).

Experiments illustrating the practical applications of the following phenomena to physiological processes.

Filtration. Diffusion. Surface-tension. Viscosity. Hydrotrophy. Osmosis. Colloidal state. Adsorption. H-ion concentration. Permeability of cell membrane.

D. Experimental Physiology (Practical).

Setting up the apparatus for electrical stimulation of the tissues and for recording their activities. Use of induction coil, keys, commutators, rheocord, myograph and revolving drums. Nerve-muscle preparation. Excitation by different types of stimuli: simple muscle curve, effects of temperature and load, calculation of work done by the muscle, effects of fatigue, effects of successive stimuli. Genesis of tetanus. Velocity of nerve impulse.

Frog's Heart: Normal heart tracing, effects of warming and cooling the sinus, vagal inhibition, effects of ions and drugs, first and second Stannius ligatures, all or none law, staircase phenomenon, refractory period, extra systole and compensatory pause.

Experimental Physiology (Demonstration).

Electrical changes in muscle and nerve during activity. Electrotonus. Pfluger's law of contraction. Capillary circulation in frog. Perfusion of mammalian and frog's heart. Recording blood pressure in animals. Intestinal movements and uterine contractions by Dale's apparatus.

E. List of experiments which should be performed on the living human subjects as far as possible or conveniently demonstrated in the practical classes:—

(1) Circulatory System:

Heart—Clinical and Fluroscopic examination. Electrocardiogram. Response to exercise.

Blood Pressure. Sphygmomanometry—Determination at rest and after exercise. Pulse tracing—Sphygmography and Polygraphy—Radial and Jugular.

Blood—Specific gravity. Fragility and sedimentation rate of R. B. C. size of R.B.C. Bleeding time, coagulation time and prothrombin time. Platelet count. Blood Grouping.

Haematocrit—Blood Plasma-Corpuscle ratio.

(2) Respiratory System—

Examination of the chest-inspection, palpation, percussion and auscultation. Respiratory efficiency tests. Determination of vital capacity and B.M.R. Artificial respiration. Determination of respiratory quotient. Fluroscopic examination of chest.

(3) Digestive System:—

Functional efficiency tests for liver and pancreas. X-Ray examination of the gastro-intestinal tract after barium meal.

(4) Nervous System:—

Study of superficial and deep reflexes. Reaction time.

(5) Nerve muscle physiology:—

Fatigue in human muscle—Ergograph and Dynamometer.

(6) Special and Cutaneous senses:—

Study of cutaneous and deep sensations. Uses of aesthesiometer, perimeter and ophthalmoscope. Tests of colour blindness. Olfactometer. Experiments on taste sensations. Tests of hearing.

(7) Excretory System:—

Renal efficiency tests.

The written papers in Physiology shall be distributed as follows:—

Paper I: Blood and Lymph, their circulation. Reticulo-endothelial System—Spleen. Respiration. Kidney and Secretion of Urine. Micturition. Skin. Regulation of Body temperature. Sense organs.

Paper II: Endocrine organs. Nervous system. Nerve muscle-physiology. Alimentation and metabolism—enzymes. Biochemistry of protein, Carbohydrate and Lipide. Nutrition and Dietetics. Reproduction.

(III) ANATOMY

The curriculum should be divided under the following headings:—

I. *Gross Anatomy*—to be dealt under the following categories:—

(A) Introductory Lectures with Demonstration.
(B) Systematic Series.

The study to be covered by didactic lectures, lecture demonstrations, surface and radiological anatomy and by dissection of the cadaver and study of dissected specimen. Knowledge thus obtained together with correlation of facts should be integrated into Living Anatomy. Details of topographical relations should be stressed for those parts which are of importance in general practice.

(*i*) Superior and Inferior Extremities, Head and Neck, Thorax, Abdomen and Pelvis—to be studied regionally and system by system. Special reference to be made to development and its anomalies, segmental innervation, functional groups of muscles in relation to joints or otherwise. Applied anatomy.

(*ii*) Endocrine Organs—with special reference to development and applied anatomy.

II. Developmental Anatomy—General principles of development and growth and the effect of hereditary and environmental factors—to be given by lectures, charts, models and slides.

III. Neuro-Anatomy—Gross anatomy of brain and spinal cord and the main nerve tracts. The peripheral nerves. Cranial nerves—their nuclei, course and distribution. Autonomic nervous system. Development and anomalies. Applied anatomy.

The study to be covered by lectures, lecture-demonstrations, dissection of brain and cord, and clinical co-relations.

N.B.—The practical study should precede the study of physiology of nervous system. Early correlation with the clinical course is desirable.

IV. Micro-Anatomy (Histology)—Practical—The compound microscope. Staining of fresh tissues; epithelial, endothelial and connective tissues, nerve, muscles, etc. and preparation and staining of blood films (frog and man).

Blood—Differential Count. Staining and identification of cells of bone marrow. Film preparation. Haemocytometry.

Staining and identification of section of different mammalian tissues.

Demonstration: Methods of preparation, embedding and cutting of paraffin and frozen sections and their staining.

1ST-YEAR

(*a*) *Winter term*—

General Anatomy and Embryology.

(*b*) *Summer term*—

Inferior Extremities, Thorax and Abdomen.

SECOND-YEAR

Winter term—

Superior Extremities, Head and Neck.

Summer term—

Neuro-Anatomy, Micro-Anatomy, Head and Neck.

The written papers in Anatomy shall be distributed as follows:—

Paper I	Head-Neck, Central Nervous System, Special Senses and Superior Extremity.
Paper II	Thorax, Abdomen and Pelvis, Inferior Extremity.

(IV) INTRODUCTION TO NORMAL PSYCHOLOGY

Lectures—

(*a*) definition of Psychology as a Science and its difference from other Sciences.

(*b*). Conception of the mind.

(*c*) Mesmer and his theory. Hypnotism structure of consciousness.

(*d*) Freud and his theory—Dynamics of the unconscious. Development of the libido.

(*e*) Other contemporary schools of Psychology.

(*f*) Relation between mind and body in health and disease.

(*g*) Perception. Imagination. Ideation. Intelligence. Memory.

(*h*) Cognition. Conation. Affect. Instinct. Sentiment. Behaviour.

CHAPTER XLV

FINAL M.B.B.S. EXAMINATION

1. Any candidate who fulfils the following conditions may be admitted to this examination:—

(*a*) That he has passed the First M.B.B.S. Examination at least three years previously.

(*b*) That he has completed a regular course of study, theoretical and practical, in the subjects of the examination extending over a period of at least three years subsequent to his passing the First M.B.B.S. Examination in a College of Medicine affiliated to the University to the Final M.B.B.S. standard, subject to the provision in clause (3) below.

2. The Final M.B.B.S. Examination shall be divided into three parts, Part I, Part II and Part III, embracing subjects as defined hereafter.

The examination in each part shall take place twice in each year, ordinarily in May and November, and shall commence on such dates as the Syndicate shall determine. Every candidate for admission to the examination shall send to the Registrar his application with a certificate in the form prescribed by the Syndicate and a fee of Rs. 40 for each part of the examination, at least twenty-one days before the date fixed for commencement of the Seminar Examination. No separate fee will be charged for the Seminar Examination. A candidate who fails to pass or present himself for the examination shall not be entitled to claim a refund of the fee, but may be admitted to one or more subsequent examinations in that part on payment of the prescribed fee on each occasion on producing a certificate that he has since the date of the last examination and within six months preceding the examination which he intends appearing at, attended to the satisfaction of the Principal of the College a further course of study in each of the subjects in which he had failed or did not appear at the previous examination.

A candidate may appear in Part I at the end of the 3rd-year and Part II at the end of the 4th-year. A candidate may, however, take up at the end of the 5th-year Part I, Part II and Part III separately or together.

3. Every candidate shall be examined in the following subjects:—

Part I

Pharmacology ... This may be taken at the end of the 3rd-year

Part II

Group A	Pathology, Bacteriology and Parasitology.	These may be taken at the end of the 4th-year together or separately.
Group B	Preventive and Social Medicine.	
Group C	Forensic and State Medicnie.	

Part III

Group A		Medicine including Clinical Therapeutics, Applied Anatomy and Physiology, Clinical Pathology, Children's diseases, Skin diseases and Mental diseases.
Group B	(*i*)	Surgery including Applied Anatomy and Physiology, Clinical Pathology, Clinical Therapeutics, Anaesthesiology, Radiology, Orthopaedics, Venereal diseases, Dental diseases and Surgical diseases of infancy and childhood.
	(*ii*)	Ophthalmology and Diseases of Ear, Nose and Throat.
Group C		Obstetrics and Gynaecology and Infant Hygiene including Applied Anatomy and Physiology, Clinical Pathology and Clinical Therapeutics.

The examination shall be Written, Oral, Practical and/or Clinical as provided hereunder, three hours being allowed for each paper.

The examination in Pharmacology and Therapeutics shall consist of:—

(*a*) One Theoretical Paper. An average of at least half-an-hour should be allowed to answer each question.

(*b*) An Oral examination.

(*c*) A Practical examination, including practical pharmacy.

The examination in Pathology, Bacteriology and Parasitology shall consist of:—

(*a*) One Theoretical Paper. An average of at least half-an-hour should be allowed to answer each question.

(*b*) A Practical examination.

(*c*) An Oral examination including questions on macroscopic and microscopic specimens.

The Examination in Preventive and Social Medicine shall consist of:—

(*a*) One Theoretical Paper. An average of at least half-an-hour should be allowed to answer each question.

(*b*) An Oral examination.

The examination in Forensic and State Medicine shall consist of:—

(*a*) One Theoretical Paper. An average of at least half-an-hour should be allowed to answer each question.

(*b*) An Oral examination.

The examination in Medicine shall consist of:—

(*a*) Two Theoretical Papers. An average of at least half-an-hour should be allowed to answer each question.

(*b*) An Oral examination including questions on pathological specimens and interpretation of X-ray records and charts.

(*c*) A Practical examination including examination of secretions, testing of urine, clinical microscopy and prescription writing.

(*d*) A Clinical examination, including Therapeutics; at least half-an-hour being allowed to the candidate for the examination of and report on his principal case.

The examination in Surgery shall consist of:—

(*a*) Two Theoretical Papers. An average of at least half-an-hour should be allowed to answer each question.

(*b*) A Clinical examination, at least half-an-hour being allowed to the candidate for the examination of and report on his principal case.

(*c*) An Oral examination in which questions on Surgical Pathology, X-ray records and pathological slides and specimens shall form special parts.

(*d*) A Practical examination in which questions on the use of surgical instruments and appliances, and on the application of splints and bandages shall form special parts. It shall include Surgical Anatomy and operation on cadaver whenever feasible.

The examination in Ophthalmology and Diseases of Ear, Nose and Throat shall consist of:—

(*a*) One Theoretical Paper. An average of at least half-an hour should be allowed to answer each question.

(*b*) A Clinical examination and the candidate's report on his principal case.

(*c*) An Oral examination.

The examination in Obstetrics and Gynaecology and Infant Hygiene shall consist of:—

(*a*) Two Theoretical Papers. An average of at least half-an-hour should be allowed to answer each question.

(*b*) An Oral examination including questions on pathological specimens, models and X-Ray films.

(*c*) A Practical examination on Obstetrics and Gynaecology including questions on instruments and appliances.

(*d*) A Clinical examination at least half-an-hour being allowed to the candidate for the examination of and report on his principal case.

4. (*i*) In addition to the Regular University Examinations, Seminar Examinations which shall be College-cum-University Examinations shall be held twice a year in each subject, six weeks before the regular University Examinations and to make the Seminar Examinations feasible, the Medical Colleges shall follow the chronological order laid down in the Syllabus of Studies. Candidates shall appear in one Seminar Examination in a subject where the course of Study is for one year and at two Seminar Examinations where the course of Study is extended for 2 years.

(*ii*) The Seminar Examinations shall be conducted by and at the colleges in which the candidates take their training. It will consist of an Oral, Practical and/or Clinical Examination.

(*iii*) Twenty-five per cent. of each Oral, Practical and/or Clinical Examination full marks in each subject at the Final University Examination will be allocated to each Seminar Examination. Marks obtained in a subject by a candidate at the Seminar Examination will be added to the marks obtained in that subject at the University Examination for final assessment. In assessing marks at the Seminar Examination the examiners shall take it into account the records of the work done by the candidate during their period of study.

(*iv*) There shall be 50% external examiners from sister colleges under the University for the Seminar Examinations.

5. As soon as possible after the examination in Part I, Part II or Part III the Syndicate shall publish a list of candidates who have passed, arranged in alphabetical order. Candidates who obtain at least 75 per cent. of marks in any group of either Part I, Part II or Part III shall be deemed to have passed with Honours in that group, provided that the candidate passes in all the groups of Part I, Part II and Part III in his first attempt.

On the recommendation of the examiners in a particular group a gold medal may be awarded to the candidate who has particularly distinguished himself in Honours in that group for that examination.

Every candidate, shall, on passing all the three parts of the Final M.B.B.S. Examination receive a certificate in the form entered in the Appendix A.

6. In order to pass the Final M.B.B.S. Examination a candidate must pass in Parts I, II and III of the examination.

In order to pass in Part I of the Final M.B.B.S. Examination a candidate must pass in Pharmacology.

In order to pass in Part II of the Final M.B.B.S. Examination a candidate must pass in Group A—Pathology, Bacteriology and Parasitology, in Group B—Preventive and Social Medicine and in Group C—Forensic and State Medicine.

In order to pass in Part III of the Final M.B.B.S. Examination a candidate must pass in Group A—(*i*) Medicine and Therapeutics, in Group B—(*i*) Surgery and (*ii*) Ophthalmology and Diseases of Ear, Nose and Throat, and in Group C—Obstetrics and Gynaecology and Infant Hygiene.

A candidate who fails to pass or to appear in Part I or in one or more groups of Part II and Part III of the Final M.B.B.S. Examination may be examined in the group or groups in which he has failed or did not appear at a subsequent examination. Provided that the examination shall be completed within a period of nineteen months from the date of appearing for the first time in Part III of the Final M.B.B.S. Examination.

Provided that in case a student has only one subject to pass at the end of this stipulated period of nineteen months he will be allowed to appear at the next examination in that particular subject and shall complete the examination within a period of 25 months from the date of appearing for the first time in Part III of the examination.

After this period of twenty-five months a candidate will be required to prosecute a further course of study in all subjects of Part III to the satisfaction of the Principal of the College provided that he has already passed in all the groups of Part I and Part II.

7. The full marks for each subject and the minimum marks required for passing are as follows :—

	Written Full marks	Oral Full marks	Written & Oral Pass marks	Pract. and/or Clinical Full marks	Pract. and/or Clinical Pass marks	Total Full marks	Total Pass marks
		Part I					
Pharmacology	100	50	60	50	25	200	100
		Part II					
Pathology, Bacteriology and Parasitology ..	100	50	60	50	25	200	100
Preventive and Social Medicine	100	50	60	..	..	150	75
Forensic and State Medicine	100	50	60	..	..	150	75
		Part III					
Madicine	200	100	120	200	100	500	250
Surgery	200	100	120	200	100	500	250
Ophthalmology and diseases of Ear, Nose and Throat.	100	50	60	50	25	200	100
Obstetrics and Gynaecology and Infant Hygiene.	200	100	120	200	100	500	250

Note.—For purposes of assessing pass marks in Surgery the marks obtained by the candidate in the written, oral and clinical portions of the examination in Ophthalmology and diseases of Ear, Nose and Throat should be added to the marks obtained in the corresponding portions of the examination in Surgery.

8. During clinical period occupying 3rd, 4th and 5th-year of study in a medical college, the student shall receive instructions in the subjects of Part I, Part II, and Part III of the Final M.B.B.S. Examination.

9. The minimum number of lectures will be as follows:—

Pathology, Bacteriology and Parasitology	60 Lectures or Demonstrations
Preventive and Social Medicine	40 Do.
Forensic and State Medicine	30
Medicine including Therapeutics	80
Mental Disease	8
Pharmacology	30 Lectures or Demonstrations
Surgery	80
Ophthalmology and Diseases of Ear, Nose and Throat (Ophthalmology—15, Diseases of Ear, Nose and Throat—10)	25
Obstetrics and Gynaecology including practical demonstrations and Infant Hygiene	60

10. The following are the Syllabuses for the subjects mentioned in rule 8 above and they may be modified by the Academic Council from time to time on the recommendation of the Board of Undergraduate Studies in Medicine and the Faculty of Medicine.

PHARMACOLOGY

The idea of didactic lectures in Pharmacology is to give the student a clear outline of the current concept of action and uses of drugs and to provide a scientific foundation for rational therapy, without burdening him with mere factual details.

The course comprises of the following:—

A. I. Introductory.

II. Drugs: Sources and Nature. Principles of drug action. Absorption. Distribution. Fate and clearance. Modifying factors.

III. Administration of drugs.

IV. Drugs influencing metabolism and water balance.

V. Drugs acting on the reaction of the body fluids.

VI. Heavy metals and metalloids. Radio-active elements.

VII. Drugs acting on the various systems:—

(*a*) Alimentary system.
(*b*) Cardio-Vascular System.
(*c*) Haemopoietic System—Blood Substitutes, Coagulants and Anticoagulants.

- (*d*) Respiratory System.
- (*e*) Urinary System.
- (*f*) Reproductive System.
- (*g*) Central Nervous System.
- (*h*) Autonomic Nervous System.
- (*i*) Muscles.
- (*j*) Skin and Mucous membrane.
- (*k*) Endocrines.

VIII. Local and Systemic anti-infectives:—
- (*a*) Antiseptics and disinfectants.
- (*b*) Antibiotics and other chemotherapeutic agents.
- (*c*) Immunotherapy.

IX. Chemotherapy of Malignant diseases.

X. Vitamins and Nutrients.

XI. Allergic Phenomenon: Anti-histaminic drugs.

B. *Pharmacy, Incompatibility and Prescription Writing*

1. Preliminary—Pharmacy, Definition and scope. Dispensing. Prescription and its parts, weights and measures used in prescriptions. Abbreviations used in prescriptions.

2. Demonstration of Pharmaceutical preparations.

3. Dispensing of—

(*a*) Mixtures and Emulsions; (*b*) Pills; (*c*) Powders; (*d*) Plasters; (*e*) Ointments; (*f*) Lotions.

4. Practice of Prescription writing, including incompatibilities.

C. Demonstration on Experimental Pharmacology.

PATHOLOGY, BACTERIOLOGY AND PARASITOLOGY

The course in Pathology, Bacteriology and Parasitology should be such as to impart to the students a thorough grasp of the basic knowledge of the subjects. Instructions should be given emphasising the application of the basic principles in the 3rd- and 4th-year of medical studies.

Autopsy—A course of practical instructions on the conduct of necropsies and each student is to act as a Post-Mortem Clerk in a minimum of ten cases.

Courses of study—

I. THEORETICAL

A. Bacteriology—Morphology. Biology. Sterilisation. Chemotherapy. Principles of artificial media. Infection. Defence reactions. Immunity. Hypersensitiveness. Skin tests.

Systematic study of bacteria: habitat, important morphological, cultural, bio-chemical, serological and toxic behaviour of the commoner pathogenic and non-pathogenic species. Pathological changes produced by disease-producing bacteria and their laboratory diagnosis.

Staphylococci, Streptococci, Diplococci, Neisseria, Mycobacterium tuberculosis (types), Mycobacterium leprae, names and differentiation of saprophytic from pathogenic mycobacteriae, corynebacterium diphtheriae; Diphtheroids and their differences from Corynebacterium diphtheriae. Aerobic spore-bearing bacteria—Bacillus Anthracis and Subtilis. Anaerobes—General and Special features of the Pathogens. Names of some important non-pathogens and their roles. Gram-negative intestinal bacteria classification, identification of the pathogens-salmonella, vibrio, bacterium pasteurella. General idea about haemophilus, pseudomonas, brucella, rickettsia, proteus. Spirochaetes—general idea, details of Trepponema pallidum and Leptospira-ictero-haemorrhagiae.

Virus—general characters, classification of diseases, immunological measures against some important virus diseases, *e.g.*, Varicella, Rabies, Bacteriophage.

B. Parasitology:

Protozoa—classification, names of important Rhizopoda. Ent. histolytica, morphology, pathogenesis and pathogenicity, diagnosis, differences from Ent. coli.

Sporozoa—species of Plasmodia, life history and pathogenesis, differentiation of species.

Mastigophera—general broad morphological features, classification, pathogenesis, vectors. Pathology of Kala-azar. Ciliata—important features, source, disease due to Balantidium coli.

Helminths—definition of certain terms, simple classification, differences between Nematodes, Cestodes and Trematodes. Broad differentiating morphological features and broad life-history and pathogenesis of important species of Nematodes, Cestodes and Trematodes—infecting liver, lungs, intestine and blood—general life-history. Differences between Schistosomes and other Trematodes.

C. Pathology—

(*a*) Principles of General Pathology: Injury, inflammation and repair, degenerations—cloudy swelling, autolytic and post-mortem degeneration. Principles of fixation. Fatty change. Lipoid degeneration. Atheroma. Hyaline, mucoid and amyloid degenerations. Necrosis and gangrene. Disturbances of pigment, calcium and uric acid metabolism. Avitaminosis. Anaemias. Disorders of growth-metaplasia; anaplasia, atrophy, hypertrophy, hyperplasia. Neoplasm—classification—benign and malignant, spread, aetiological factors, experimental carcinogenesis, theories. Circulatory disturbances—clotting, ischoemia, thrombosis, embolism, infarction; hyperaemia, oedema, shock, ischoemia.

(*b*) Pathology of Special Organs: Morbid Anatomy (Macroscopic) in commoner disorders.

II. Lectures and/or Demonstrations

Clinical and Chemical Pathology.

Blood—Collection for different purposes. Estimation of haemoglobin, total count of R.B.Cs., W.B.Cs., Platelets, M.C.H., M.C.V., M.C.H.C.,—significance. Differential leucocyte count. Malaria parasites, Leishmania, Trypanosomes in peripheral blood, marrow or spleen puncture material. Development of R.B.C. and W.B.C. Leukæmia. Erythrocyte sedimentation rate. Blood culture. Aldehyde and Chopra's Test. Bleeding and Coagulation time. Prothrombin time. Blood groups. Estimation of blood sugar. Sugar tolerance test. Liver function tests especially bilirubin, Vanden Bergh's reaction, Icterus index.

Fractional Test meal—interpretation of curves.

Urine—estimation of urea—urea clearance test, water diuresis test, urinary deposits.

Faeces—different ova—differentiation—Bacillary dysentery. Amoebic dysentery.

Examinations of Throat swab, Sputum, C.S.F., Ascitic and Pleural fluids.

III. Practical

Clinical and chemical Pathology: Estimation of Haemoglobin (by acidimetry). Count of R.B.Cs. and W.B.Cs. Staining of thin and thick films, differential count and parasites. Erythrocyte sedimentation rate. Urine—physical, chemical, microscopical, quantity of albumin and sugar. Faeces—physical, chemical (occult blood) and microscopical for ova and protozoa.

Bacteriology: Methods of sterilisation, preparation of media, use of microscope. Gram and Acid Fast stains. Motility preparation. Gram positive and Negative cocci and bacilli. Special stains for Corynebacterium. Gram and Acid Fast stains of Pus and Sputum.

McConkey's Plate—Sugar reactions—Gram stain and motility of Gram negative intestinal bacteria. Widal and Bordet-Durham Reactions.

Demonstration of Pasteurella and of Spirochaetes by dark field illumination—Fontana's stain—Levaditti's stain. Demonstration of methods of Anaerobiasis and of Tetanus spores.

Pseudomonas.

Morbid Histology:—

Practical training in methods of fixation, embedding, cutting and staining of Paraffin and Frozen sections.

Grey hapatisation, Acute appendicitis, Chronic appendicitis, Septic Liver abscess, Granulation tissue, Tuberculosis of lung, Portal cirrhosis, Fatty liver, Malaria liver, Atheroma, Papilloma, Fibro-adonoma, Fibroma, Fibromyoma, Squamous-celled and Basal-celled Carcinomas, Adeno carcinoma, Scirrous carcinoma, Encephaloid carcinoma, Secondary carcinoma in lymph gland, Round and Spindle-celled sarcoma.

3rd year

1. General Bacteriology.
2. Systematic Bacteriology.
3. Principles of General Pathology.
4. Morbid Histology.

4th year

1. Systematic Bacteriology.
2. Parasitology.
3. Pathology of Special Organs.
4. Clinical and Chemical Pathology.
5. Morbid Histology.

PREVENTIVE AND SOCIAL MEDICINE

Instruction in this course should be given in the 3rd and 4th years of medical studies by lectures, demonstrations and field studies.

I. Introduction to Preventive and Social Medicine—

Concept, Man and Society. Aim and scope of Preventive and Social Medicine. Social causes of disease and social problems of the sick. Relation of economic factors and environment in health and disease.

II. Physiological Hygiene—

(*a*) Food and Nutrition—Food in relation to health and disease. Balanced diets. Nutritional deficiencies and nutritional survey. Food processing. Pasteurisation of Milk. Adulteration of Food and food inspection . Food poisoning.

(*b*) Air, Light and Sunshine.

(*c*) Effect of Climate—Humidity, Temperature, Pressure and other Meteorological conditions—comfort zone. Effect of overcrowding.

(*d*) Personal Hygiene—(cleanliness, rest, sleep, work); physical exercise and training. Care of health in tropics.

III. Environmental Sanitation—

(*a*) Atmospheric Pollution—Purification of Air. Air Sterilisation.

(*b*) Water Supplies—sources and uses, impurities and purification. Public water supplies in urban and rural areas.

Standards for drinking water. Diseases associated with water supply.

(*c*) Garbage, refuse and excreta. Methods of collection, removal and disposal. Types of latrines and their uses. Utilisation of wastes, composing, sullage and sewage farming.

(*d*) Disposal of the dead.

(*e*) Principles of housing—Residential and Non-residential—Rural, Urban and Industrial.

(*f*) Disinfection—Disinfectants. Deodorants, Antiseptics, Germicides. Methods of disinfection and sterilisation.

(*g*) Insects—Insecticides and Disinfection—Insects in relation to disease. Insect control.

(*h*) Protozoal and helminthic diseases—Life cycle of protozoa and helminths; their prevention.

IV. Industrial Hygiene—

(*a*) Health, Safety and Welfare of industrial workers. Industrial Hazards.

(*b*) Occupational diseases.

(*c*) Offensive trades. Trade wastes and disposal.

(*d*) Noise, fatigue, rest and recreation.

V. Medical Statistics—

Principles and elements of Statistics.
Vital Statistics.

VI. Preventive Medicine—

(*a*) Infection, resistance, immunity. General principles of prevention and control of communicable diseases. Their application and prevention of common infectious diseases specially of tropics.

(*b*) Natural History of diseases.

(*c*) Important communicable diseases, specially plague, cholera, small-pox, diptheria, tuberculosis, malaria, kala-azar, filariasis, typhus, rabies, leprosy, venereal diseases, common virus diseases, *e.g.*, common cold, measles, chicken-pox, poliomyelitis, infective hepatitis, helminthic infections, enteric fever and dysenteries; also animal diseases transmissible to man. Their description and methods of prevention. Spread by contact, by droplet infection, by environmental vehicles (water, soil, food, insects, animals, fomites, etc.).

VII. Maternal and Child Health.

VIII. School Hygiene—

Medical inspection and correction of defects. Control of communicable diseases in schools.

IX. Mental Hygiene—

Elementary principles.

X. Health Education—

XI. Public Health Administration—

Brief history of development of Public Health, Central, Provincial, Local authorities. Notification of communicable diseases. Elements of Public Health laws applicable to India. The Social responsibility of the Physician in the diagnosis, treatment and rehabilitation of a patient.

XII. Fairs, Festivals and Camp Sanitation.

XIII. International Health Relations—

Sea ports and air ports quarantine. International health regulations—vaccination and inoculation of passengers, rat and vermin control. International Health Organisation.

XIV. Traffic Sanitation—

Railways, tramways, bus and other public conveyances.

PRACTICAL

(*a*) Field demonstrations should include visits to water purification plant, trenching ground, sewage, disposal works, incinerator, housing projects, urban, rural and industrial disinfecting stations, industrial plants, industrial bustees. Antimalaria operations, slaughter house, food markets, shop, etc.

(*b*) Attendance at maternity and childwelfare centres, school, health clinics, chest clinics, V. D. clinics, infectious diseases, hospitals, institution for mentally defective, municipal health office, vaccination depot, rural health centres, voluntary organisations for social welfare work, etc.

N.B.—There should be an adequately equipped Hygiene Museum.

The course should be given by a course of lectures or lecture-demonstrations for 40 hours and 10 field-demonstrations for 10 hours and 5 clinico-social conferences.

3rd year

1. Introduction to Preventive and Social Medicine.
2. Physiological Hygiene.
3. Environmental Sanitation.
4. Industrial Hygiene.
5. Medical Statistics.
6. Fairs, Festivals and Camp Sanitation.
7. Traffic Sanitation.

4th year

1. Preventive Medicine.
2. Maternal and Child Health.
3. School Hygiene.
4. Mental Hygiene.
5. Health Education.
6. Public Health Administration.
7. International Health Relations.

FORENSIC AND STATE MEDICINE

The course of study for this subject should be as follows:—

A. A course of systematic theoretical lectures not less than 30 covering the whole range of Forensic and State Medicine including Toxicology, Medico-legal aspects of Insanity, State Medicine as well as Medical Ethics and Laws.

This course should be taken in the 4th-year of medical studies.

B. Demonstrations—not less than 10 on wet and dry specimens, charts diagrams, toxicological specimens, drugs, weapons, X-Ray films, etc., of medico-legal interest.

C. Attendance at not less than 12 medico-legal post-mortem examinations including demonstrations and the writing of post-mortem reports for the same.

The detailed syllabus for the subject should include the following sections:—

(1) Definition—Forensic Medicine and State Medicine.

(2) Elementary knowledge of methods of investigation of criminal cases in India. Procedure of giving medical evidence in Courts of Justice with special reference to Indian Evidence Act.

(3) Medical Certificates and medico-legal reports—Dying declaration and Dying depositions.

(4) Methods of establishing identity of a living subject and of a dead body. Sexual characteristics of the skeleton. Mutilated bodies. Fragmentary remains.

(5) Age—its medico-legal importance and methods of age-determination with special reference to eruption of teeth as well as radiological study of ossification centres for bones and bony union.

(6) Death—its medico-legal aspects. Modes of death. Sudden death, its causes and medico-legal importance.

Signs of death with special reference to cadaveric spasm. Rigor Mortis. Suggilation. Putrefaction. Adipocere and Mummification.

(7) Medico-legal examination of a dead body—Procedure of holding autopsies in medico-legal cases.

(8) Unnatural deaths and their recognition.

(9) Medico-legal wounds—their classification and detailed study.

(10) Elementary knowledge of examination of blood—chemical, microscopical, spectroscopical and biological examinations of blood stains.

(11) Deaths by burns and scalds—Deaths from lightning, electric currents, heat and cold.

(12) Starvation—its causes and medico-legal importance. Effects of X-Ray ultra-violet and infra-red rays' exposure. Post-mortem appearances in case of death.

(13) Violent asphyxical deaths—Hanging, Strangulation including throttling, Suffocation and Drowning—Resuscitation of an apparently drowned person.

(14) Sexual crimes—Impotence and Sterility. Virginity and Defloration. Rape. **Examination of seminal stains.**

Medico-legal aspects of pregnancy—Development of foetus. Delivery signs of recent and remote delivery in the living and the dead.

Legitimacy and Inheritance.

Abortions—Infanticide—Unnatural sexual offences and Sex-perversions.

(15) Medico-legal aspects of Insanity.

Procedure of examining a person alleged to be insane—lunacy certificates.

Different modes of placing lunatics under restraint. Feigned Insanity. Illusion, Hallucination, Delusion and Obsession.

Criminal Responsibility.

Testamentary capacity—Lucid interval.

(16) Toxicology:

General considerations of poisoning and its classification.

Relationship of poisons and crimes.

Actions of poisons and factors modifying their action. Diagnosis of poisoning—Evidence of poisoning in the living and the dead.

Preservation of and despatch of viscera for chemical analysis.

Treatment of poisoning in general.

Toxicology of the following poisons to be studied:—

Corrosive mineral acids. Corrosive alkalies. Oxalic acid. Carbolic acid. Phosphorus. Arsenic. Corrosive sublimate and copper sulphate. Barium. Radium. Lead and antimony. Alcohol. Chloroform and Ether. Chloral Hydrate. Aspirin. Paraldehyde. Barbiturates and Opium. Datura. Belladonna. Canabis Indica. Cocaine. Nux Vomica. Kerosine oil. Aconite. Nerium Oderum (White or pink oleander). Carbera Thevetia (Yellow oleander). Calotropis Procera and Gigantea (Hander or Akania). Plumbago. Zeylenica and Rosea (Chitra and Lalchitra). Castor seeds. Croton seeds. Jequitry (Rati). Samacarpus Anacardium (Bhela). Carbon Monoxide and Carbon Dioxide. Sulphuretted Hydrogen and Sewer gas. Snake bite, its effects and treatment. Scorpion bites. Ptomaine poisoning.

(17) State Medicine.

Instructions on legal responsibilities and duties of medical men and on the generally recognised rules of Medical Ethics which may cover such matters as:—

(*i*) The responsibilities and duties of the medical practitioners to the State—Professional Secrecy and Privileged communication.

(*ii*) The responsibilities of practitioners to their patients.

(*iii*) The relationship of practitioners to one another.

(*iv*) Unprofessional conduct relating to advertising, canvassing, and to association with unqualified persons. Malpraxis —Civil and Criminal.

(*v*) The Covering of unqualified assistants, practitioners and midwives.

(*vi*) The duties of medical practitioners and the responsibilities of the Superintendent of a Hospital and his subordinate Medical Officers in cases of death under anaesthesia and after surgical operations.

(*vii*) The functions of State Medical Council and its relationship to Indian Medical Council.

(*viii*) A code of Medical Ethics as approved by the Indian Medical Council.

(*ix*) Attention should be called to all notices and instructions issued from time to time by the State Medical Council on Medical Ethics and Laws.

MEDICINE INCLUDING THERAPEUTICS

A. A course of systematic instruction in the principles and practice of Medicine.

B. During the first three months of the clinical period when the students will not be in charge of beds they will be given instruction on elementary methods of Clinical Examination including physical signs, the use of common instruments like Stethoscope, Ophthalmoscope, etc., and the examination of body fluids (with demonstration on living subjects—normal and abnormal). Recognition of common bacteria and parasites, their life-history and effects on the human system.

C. A medical clinical clerkship for a period of nine months (excluding the first three months as mentioned in B) of which six months must be spent in the hospital wards and three months in the out-patient department.

Note.—It is expected that each student will be given charge of five beds while doing clinical clerkship in the in-patient wards.

D. A clinical clerkship for two months in a children's ward or hospital (in-patient department for one month and out-patient department for one month).

E. During the period of medical ward-clerking for a period of one month it is expected that a student should work as an intern clerk when he or she should be in hospital or close by.

F. Lectures-demonstrations in clinical medicine and attendance in general in-patient and out-patient practice during at least two years which may run concurrently with the surgical practice under Surgery.

G. Instruction in Therapeutics and Prescribing.

H. Instruction in Applied Anatomy and Physiology throughout the period of clinical studies to be arranged between the teachers of Anatomy and Physiology and of the clinical subjects.

I. Instruction throughout the period of medical clerkship in Clinical Pathology, to be arranged between the teachers of Pathology and of the clinical subjects.

J. As a matter of convenience, it is suggested that instructions may be given in the following manner during the three years of clinical course in Medicine:—

3rd-year

Applied Anatomy and Applied Physiology.
Diseases of the Respiratory System.
Diseases of the Digestive System and Peritoneum.
Diseases of Metabolism and Deficiency Diseases.
Diseases of Blood, Spleen and Lymph Glands.
Extra-Pulmonary Tuberculosis.
Disorders of Endocrine System.
Applied Therapeutics.

4th-year

Infectious Diseases.
Pulmonary Tuberculosis.
Diseases of the Cardio-Vascular System.
Diseases of the Genitourinary System.
Joint-Disorders.
Diseases of the Nervous System.
Psychological Medicine.
Tropical Diseases.
Diseases of Skin including Leprosy.
Diseases of Infants and Children.
Applied Therapeutics.

5th-year

Applied Therapeutics.

Applied Pathology.

Radiology and Electrotherapeutics in their application to medicine.

Note.—(1) Throughout the whole period of the study the attention of the students should be directed by the teachers of this subject to the importance of its preventive aspects.

(2) Instruction in these branches of medicine should be directed to the attainment of sufficient knowledge to ensure familiarity with the commoner conditions, their recognition and treatment.

(3) Every student shall prepare and submit 20 complete case histories, ten being in the 3rd-year and ten in the 4th-year. These shall be considered in the Seminar Examination.

The written papers in the subject shall be distributed as follows:—

Paper I—Infectious Diseases. Disorders of Endocrine System. Diseases of Metabolism and Deficiency Diseases. Diseases of the Digestive System and Peritoneum. Affections of Joints and Peritoneum. Diseases of the Nervous System. Psychological Medicine. Common Diseases of the Skin.

Paper II—Diseases of Children. Diseases of the Cardio-Vascular System. Diseases of the Respiratory System. Tuberculosis. Diseases of Blood, Spleen and Lymph Glands. Tropical Diseases. Diseases of Genitourinary System.

SURGERY

A. A course of systematic instruction in the principles and practice of Surgery.

B. During the first three months of the clinical period when the students will not be in charge of beds, they will be given instructions on fundamentals of Clinical Examination including physical signs, the use of common instruments, asepsis and antisepsis, dressing of wounds, etc. Study of common bacteria and parasites, their life-history and effects on the human system.

C. A Surgical Dressership in the Hospital Wards for a period of nine months (excluding the first three months as mentioned in Section B), of which six months must be spent in the hospital wards and three months in the out-patient department.

Note.—It is expected that each student will be given independent charge of five beds while doing Surgical Dressership in the Indoor Wards.

D. During the period of Surgical Ward Dressings for a period of one month as an intern-clerk, during which the student is expected to be in residence in hospitals or close by.

E. Lecture-demonstrations in clinical surgery and attendance in general in-patient and out-patient practice during at least two years, which may run concurrently with the medical practice under Medicine (F).

F. Practical instruction in surgical methods including physiotherapy.

G. Practical instruction in minor operative surgery on the living.

H. Instruction in the administration of anaesthetics.

I. A course of instruction in Operative Surgery.

J. Instruction in Applied Anatomy and Physiology throughout the period of clinical studies to be arranged between the teachers of Anatomy and Physiology and of the clinical subjects.

K. Instruction throughout the periods of surgical dressership in Clinical Pathology to be arranged between the teachers of Pathology and of the clinical subjects.

L. Instruction in the following subjects:—

(*i*) Radiology and electrotherapeutics in their application to surgery.

(*ii*) Venereal diseases.

(*iii*) Orthopaedics.

(*iv*) Dental disease.

(*v*) Surgical diseases of infancy and childhood.

M. As a matter of convenience, it is suggested that instructions may be given in the following manner during the three years of Clinical Course in Surgery:—

3rd-year

A. *General*

Applied Anatomy and Applied Physiology.

General Surgical Procedures.

Inflammation. Infection—non-specific Infections, specific Infections. Suppuration. Bacteriology of Surgical diseases. Immunity.

Injuries. Contusions. Wounds. Haemorrhage. Shock. Burns and Scalds. Tumours and Cysts. Injuries and diseases of the Skin and Subcutaneous tissues. Ulceration and Gangrene. Diseases of the Blood Vessels and Lymphatic System. Injuries of Bones. Injuries of Joints. Injuries of the Upper Limb. Injuries of the Pelvis and Lower Limb. Diseases and Tumours of Bone and Cartilage. Diseases of Joints. Clinical Manifestations of diseases of individual joints. Deformities of limbs. Amputation. Artificial Limbs. Injuries and diseases of Nerves, Muscles, Tendons, and Bursae.

B. Venereal diseases.

C. Dental surgery.

D. Lecture Demonstrations on Splints, Bandage and Instruments.

4th-year

A. *General*

Injuries and Diseases of the Scalp and Skull, Brain and its membranes, Face, Lips, Mouth, Jaws, Tongue, Salivary glands, Neck, Thyroid, Parathyroid and Thymus, Breast, Chest and Thoracic Viscera, Spine, Abdominal Parieties and Peritoneum, Stomach, Duodenum, Liver, Gall Bladder and Bile Ducts, Pancreas and Spleen, Intestines, Rectum and Anal Canal. Intestinal obstruction. Hernia. Injuries and Diseases of Kidney, Ureter, Bladder, Urethra and the Genitalia. Diseases of the Suprarenal and the Autonomic system.

B. *Otorhinolaryngology*

Knowledge of the commoner diseases and accidents of the Ear, Nose and Throat including tracheo-bronchial tree and oesophagus with a knowledge of Anatomy, Physiology, Pathology, treatment and simple operative measures.

C. *Ophthalmology*

Clinical Examination of the Eye—subjective and objective. Elementary Anatomy of the Eye, its appendages, and the orbit. Elementary Physiology of the eye. Common diseases of the Lids, Lacrimal apparatus, Conjunctiva, Cornea, Sclera, Iris, Ciliary Body, and Lens. Glaucoma. Orbital Cellulitis, Exophthalmos. Endophthalmitis, Panophthalmitis. Common diseases of the Retina and the Optic Nerve, associated with general conditions. Injuries of Eye lids and Eye ball. Elementary refraction of the eye. Squint. Use of Ophthalmoscope. Common operations on the eye and its appandages.

D. Lecture Demonstration on X-Ray and Pathological specimens.

5th-year

A. Operative Surgery.
B. Anaesthesiology.
C. Radiology.
D. Electro-Therapeutics.
E. Surgical diseases of infancy and childhood

Note.—(1) Throughout the whole period of the study the attention of the students should be directed by the teachers of this subject to the importance of its preventive aspects.

(2) Instruction in these branches of Medicine should be directed to the attainment of sufficient knowledge to ensure familiarity with the commoner conditions, their recognition and treatment.

(3) Every student shall prepare and submit 20 complete case histories, ten being in the 3rd-year and ten in the 4th-year. These shall be considered in the seminar examination.

The written papers in the subject (except Otorhinolaryngology and Ophthalmology) shall be distributed as follows:—

First Paper

General Surgery—

Inflammation. Specific and non-specific infections. Haemorrhage, Shock, Burns, Ulcer and Gangrene. Tumours and Cysts. Injuries and Diseases of Nerves, Muscles, Tendons and Bursae. Diseases of Lymph—Vascular System including spleen.

Head and Neck Surgery including Surgery of Thyroid, Breast and Congenital anomalies.

Abdominal Surgery including Gastrointestinal system.

Second Paper

Bone and Joint surgery. Injuries and Diseases of Spine. Deformities of limbs. Amputation and artificial limb.

Thoracic Surgery.

Genito-urinary Surgery.

OBSTETRICS AND GYNAECOLOGY AND INFANT HYGIENE

A. A course of systematic instruction in the principles and practice of Obstetrics and Gynaecology and Infant Hygiene, including the applied anatomy and physiology of pregnancy and labour.

B. Lectures and Demonstrations in Clinical Obstetrics, Gynaecology, and Infant Hygiene and attendance on the practice of a maternity hospital or the maternity wards of a general hospital including (*a*) ante-natal care and (*b*) the management of the puerperium, and on in-patient and out-patient gynaecological practice for a period of at least three months.

This period should be devoted exclusively to instruction in these subjects, and should be subsequent to the medical clinical clerkship and the surgical dressership. Not less than two-thirds of the hours of clinical instruction should be given to Midwifery, including ante-natal care and Infant Hygiene.

C. Of this period of clinical instruction not less than one month should be spent as a resident pupil either in a maternity hospital or in a hostel attached to a maternity hospital or to the maternity wards of a general hospital.

The students should, during this month, conduct at least twenty cases of labour under adequate supervision. Should the number of cases attended during this month be less than twenty, the remainder must be attended as soon as possible thereafter.

A certificate, showing the number of cases of labour attended by the student in the maternity hospital, shall be signed by a responsible Medical Officer on the staff of the hospital and should state—

(i) That the student has personally attended each case during the course of labour, making the necessary abdominal and other examinations under the supervision of the certifying officer who should describe his official position.

(ii) That satisfactory written histories of the cases attended, including, when possible, ante-natal and post-natal observations, were presented by the student and initialled by the supervising officer.

4th-year

Obstetrics—Applied Anatomy; Development of the Ovum. The Foetus and Appendages. Pregnancy—Normal Pregnancy. Pre-natal Care. Introduction to Abnormal Pregnancy. Labour—Normal Labour. Introduction to Abnormal Labour. Puerperium—Normal Puerperium. Post-natal Care.

Gynaecology—Applied Anatomy and Physiology; Gynaecological Examination. Developmental Anomalies of the Female Generative Organs; Sex Hormones; Disorders of Function: Menstrual Anomalies; Displacement.

Infant Hygiene—Care of the New-Born.

5th-year.

Obstetrics—Pregnancy—Abnormal Pregnancy; Abortions; Molar Pregnancy; Extra-uterine Pregnancy; Diseases of Placenta and Membranes. Toxaemia of Pregnancy. Antepartum Haemorrhage. Disorders of Genital tract—Retroversion, Prolapse, Tumours, etc. Multiple Pregnancy. Protracted Gestation. Common Disorders associated with Pregnancy. Labour—Abnormal Labour. Abnormal Presentation and Position of Twins; Prolapse of the Cord and Limbs. Abnormalities in the action of the Uterus. Abnormal conditions of the soft parts. Contracted Pelvis. Obstructed Labour. Complications of the Third Stage of Labour. Injuries to Birth canal. Common Obstetrical Operations. Puerperium—Abnormal Puerperium. Infection. Other Common Disorders.

Gynaecology—Inflammation; Ulceration and Traumatic Lesions of the Female Generative Organs; New Growths; Common Gynaecological Operations and Radio-Therapy.

Infant Hygiene—Breast Feeding—Artificial feeding; Management of Prematurity; Asphyxia; Birth Injuries and Common disorder of the new born.

Note.—(1) Throughout the whole period of the study the attention of the students should be directed by the teachers of this subject to the importance of its preventive aspects.

(2) Instruction in this branch of Medicine should be directed to the attainment of sufficient knowledge to ensure familiarity with the commoner conditions, their recognition and treatment.

(3) Every student shall prepare and submit 20 complete case histories, ten being in the 4th-year and ten in the 5th year. These shall be considered in the seminar examination—

The written papers in the subject shall be distributed as follows :—

Paper I—Obstetrics.
Paper II—Gynaecology and Infant Hygiene.

B. E. (MINING)

(1) That the degree course in Mining Engineering shall be called B.E. (Mining) Degree course.

(2) That it shall be a four year course in the same pattern as that of the other Engineering degree course of the Calcutta University.

(3) That the first two years of the course shall be common to all Engineering as per Chapter LI of the Calcutta University Regulations. The Mining students during their first and second year course shall be given one hour's lecture per week on their profession.

(4) That the third and fourth year course of Mining Engineering shall have the written and sessional examination papers and marks as detailed below :—

Third Year Course

(*i*) Mining (Paper I) .. .. ..
(*ii*) Mining (Paper II) .. .. ..
(*iii*) Mining Geology (Paper I) .. ..
(*iv*) Mine Surveying (Paper I) .. ..
(*v*) Metallurgy and Assaying .. ..
(*vi*) Hydraulics (half paper) .. ..
(*vii*) Physical Chemistry (half paper) ..
(*viii*) Electro Technology (paper) .. ..
(*ix*) Organic Chemistry, Fuels and Refractory (paper)
(*x*) Metallurgy and Assaying (sessional) ..
(*xi*) Electro-Technology (sessional) .. ..
(*xii*) Organic Chemistry, Fuels and Refractories (sessional).

Third and Fourth Year courses

(*i*)	Mining I (Paper I)	100 marks
(*ii*)	Mining I (Paper II)	100 ,,
(*iii*)	Mining Geology (Paper I)	100 ,,
(*iv*)	Mine Surveying (Paper I)	100 ,,
(*v*)	Metallurgy and Assaying	100 ,,
(*vi*)	Hydraulic (half paper)	50 ,,
(*vii*)	Physical Chemistry (half paper)	50 ,,
(*viii*)	Electro Technology (paper)	100 ,,
(*ix*)	Organic Chemistry, Fuels and Refractory (paper)	100 ,,
(*x*)	Metallurgy and Assaying (sessional) ..	100 ,,
(*xi*)	Electro-Technology (sessional)	50 ,,
(*xii*)	Organic Chemistry, Fuels and Refractories (sessional).	100 ,,
(*xiii*)	Mining II (Paper I)	100 ,,
(*xiv*)	Mining II (Paper II)	100 ,,
(*xv*)	Mining II (Paper III)	100 ,,
(*xvi*)	Mining Geology (Paper II) ..	100 ,,

(*xvii*)	Mine Surveying (Paper II)	100 „
(*xviii*)	Coal and Mineral Dressing	100 „
(*xix*)	Economics of Mining	100 „
(*xx*)	Project and Thesis (sessional)	150 „
(*xxi*)	Mining (sessional)	150 „
(*xxii*)	Mining Geology (Sessional and Practical) ..	100 „
(*xxiii*)	Mine Surveying (Sessional and Practical) ..	100 „
(*xxiv*)	Mineral Dressing (sessional)	50 „
(*xxv*)	Percentage mark of B.E., Part I ..	100 „
	Total ..	2,400 marks

The maximum marks for B.E. (Mining) Part II shall be a total of 2,400.

(5) University Regulations in Chapters LI and LII should be amended as shown in Annexure I.

ANNEXURE I

ADDITIONS AND ALTERATIONS SUGGESTED TO

Chapter LI—Amend as follows :—After 'Part I', insert 'Mining' between the words "Electrical" and "and" inside brackets which states (Common to Civil, Mechanical, Electrical and Metallurgical courses).

Add—"Section 13 :—Minimum one hour's lecture per week on Profession in respective branches is to be given to the students during the two years' course."

Chapter LII—Section 2 : Add after (D) Metallurgical Engineering the following :—

(E) Mining Engineering.

Section 5—Add the following after "(*d*) Metallurgical Engineering" :—

(*e*) Mining Engineering—

(*i*) Mining (Paper I) .. .. ..
(*ii*) Mining (Paper II) .. .. ..
(*iii*) Mining Geology (Paper I) .. ..
(*iv*) Mine Surveying (Paper I) .. ..
(*v*) Metallurgy and Assaying .. ..
(*vi*) Hydraulic (half paper) .. ..
(*vii*) Physical Chemistry (half paper) .. ..
(*viii*) Electro Technology (paper) .. ..
(*ix*) Organic Chemistry, Fuels and Refractory (paper).
(*x*) Metallurgy and Assaying (Sessional) ..
(*xi*) Electro-Technology (sessional) .. ..
(*xii*) Organic Chemistry, Fuels and Refractories (sessional).
Total ..

Section 13—After "(D) Metallurgical Engineering" add the following :—

(E) Mining Engineering—

(*i*)	Mining (Paper I)	100 marks
(*ii*)	Mining (Paper II)	100 „
(*iii*)	Mining Geology (Paper I)	100 „
(*iv*)	Mine Surveying (Paper I)	100 „
(*v*)	Metallurgy and Assaying	100 „
(*vi*)	Hydraulic (half paper)	50 „
(*vii*)	Physical Chemistry (half paper)	50 „
(*viii*)	Electro Technology (paper)	100 „
(*ix*)	Organic Chemistry, Fuels and Refractory (paper).	100 „
(*x*)	Metallurgy and Assaying (sessional) ..	100 „
(*xi*)	Electro-Technology (sessional)	50 „
(*xii*)	Organic Chemistry, Fuels and Refractories (sessional).	100 „
(*xiii*)	Mining (Paper I)	100 „
(*xiv*)	Mining (Paper II)	100 „
(*xv*)	Mining (Paper III)	100 „
(*xvi*)	Mining Geology (Paper II)	100 „
(*xvii*)	Mine Surveying (Paper II)	100 „
(*xviii*)	Coal and Mineral Dressing	100 „

(*xix*)	Economics of Mining	100	„
(*xx*)	Project and Thesis (sessional)	150	„
(*xxi*)	Mining (sessional)	150	„
(*xxii*)	Mining Geology (sessional and Practical)	100	„
(*xxiii*)	Mine Surveying (sessional and Practical)	100	„
(*xxiv*)	Coal and Mineral Dressing (sessional)	50	„
(*xxv*)	Percentage mark of B.E., Part	100	„
	Total	2,400	„

Section 14—After "D(*xix*) project and Thesis (sessional.......Metallurgical plant or Machinery" add the following :—
(E) Mining Engineering.

(*i*)

E (I) MINING (PART I)

Paper I

Principles and Practice of Coal Mining (Methods of Working)—

Boring—Various methods, namely (*a*) percussive, with rods and ropes; (*b*) rotary, with diamonds and chilled shots. Lining of bore-holes, difficulties in boring, examination and preservation of cores, determination of dip, strike and thickness of beds from bore-hole records, siting of bore holes, survey of bore holes for position and deviation.

Explosives—Classification and composition; fuses and Detonators; Handling and storage precautions; charging and firing; Misfire and Hang-fire; substitutes for Explosives; Costs.

Shaft Sinking—Selection of site, size number and shape of shafts; Ordinary methods of sinking-inclined and vertical shafts; sinking in wet, weak and running grounds; surface arrangement; ventilation and lighting; Dealing with water; safety precautions; progress and costs.

Supporting Excavations—Classes for timber suitable for different conditions; Necessity and methods of preserving timbers; Application of timber, iron and steel, brickwork, masonry and concrete to the support of shafts, drives and working places; initial and maintenance costs.

Methods of Working—(*a*) Open cast—condition for its suitability and its lmitations; stripping of overburden; development and maintenance of quarry faces; haulage and drainage in quarries; modern mechanised working of quarries and its costs. (*b*) Underground methods—consideration of general conditions for adopting different methods of working and their limitations. Details of Bord and Piller Method, Longwall Method and their Modifications. Use of coalcutting machines. Modern trend in mining methods.

Subsidence and Stowing—Theories of subsidence; Indian subsidence Committee Report; Dangers and losses due to subsidence; Different methods of stowing and their relative advantages.

E (II) MINING (PART I)

Paper II

Principles and Practice of Coal Mining (Ventilation, Illumination, Inundation, etc.)—

Principles of Mine Ventilation—Atmosphere and its composition; Necessity and standard of ventilation; pollution of mine air; properties, occurrence and detection of mine gases. Heat and humidity in a mine, their measurement and physiological effects. Methods of controlling temperature and humidity in deep mines. Legal requirements with respect to ventilation in mines.

Natural Ventilation—Influencing factors and their influence on ventilation of a mine with mechanical ventilation under different conditions.

Mine Fans—Designs, working and calculations; Fan characteristics and suitability; various types of centrifugal propeller and air-screw fans; Auxiliary fans underground.

Ventilation Survey—Use of instruments in measuring ventilating pressures and air quantities; coursing air current in mines; preparation of ventilation plans.

Explosions in Mines—Fire damp and coal dust explosions; detailed study of their behaviour, causes and preventive measures; investigations after explosion.

Mine fires—Surface fires—causes and their prevention; underground fires—causes, detection and methods of dealing with them, and preventive measures.

Mine Rescue and Recovery work—Respirators, smoke helmet, self-contained breathing apparatus, Rescue stations, Fighting mine fires, Rescue and recovery work after an explosion or a mine fire. Coal Mines Rescue Rules.

Inundation—Causes, protective measures; approaching old workings.

Mine Lighting—Open lamps, candles, flame safety Lamps, Electric Safety lamps; storage, distribution, maintenance and examination of Safety Lamps.

E (III) MINING GEOLOGY

Paper I

Introduction—Geology—the science of the earth, its different branches and aim and scope of those branches. The earth as a planet, general idea about its origin, age, interior and surface features. The crust of the earth, its constituents.

Physical Geology—Moulding of the earth's surface due to operation of the different natural processes. Weathering, erosion, transportation and deposition. Preliminary ideas about the Geological work done by air, water, ice and life. Volcanoes and volcanism. Distribution of volcanoes.

Structural Geology—Common structural features of rock masses. Deposition and consolidation of sediments, stratification, bedding planes, current bedding, outcrop, true and apparent dip, strike, calculation of true and apparent dip, width of outcrops and thickness of beds. Folds of different kinds. Joints and faults and their varieties. Criteria for location of faults in the field. Unconformity and overlap.

Earth movements—slow and rapid. Earthquakes, causes and effects, scale of intensity of earthquakes. Seismic belts. Mountains of different types, mountain building. Significance of folds, joints and faults in mining operations.

Mineralogy—Definition of a mineral. Crystalline and amorphous state Crystals, different systems of crystals and the common minerals crystallising in those systems. Common physical, optical and chemical properties of minerals. Hardness, specific gravity, cleavage, fracture, lustre, streak of minerals. Polarisation of light. Double refraction and birefringence of minerals. Isotropism and anisotropism. Optic axis, uniaxial and biaxial minerals. Optic sign of minerals. Interference colour, extinction angles, twinning and refractive indices of minerals under the petrological microscope. Interference figures. Dispersion phenomena in minerals. Minerals as chemical bodies. Chemical characters of minerals. Isomorphism and Polymorphism in minerals. Mineral association and Paragenesis. Study of polished surface of ore minerals under the ore-microscope. Study of the chemical composition, physical properties, economic uses and Indian occurrences of the following minerals :—

Diamond, Graphite, Gold, Silver, Bauxite, Stibnite, Chromite, Chalcopyrite, Malachite, Azurite, Chalcocite, Bornite, Covelite, Haematite, Magnetite, Siderite, Limonite, Galena, Magnesite, Pyrolusite, Psilomelane, Braunite, Cinnabar, Niccolite, Pyrrhotite, Pyrite, Cassiterite, Wolframite, Sphalerite, Smithsonite, Quartz, Kaolinite, Sillimanite, Kyanite, Corundum, Calcite, Dolomite, Gypsum, Barytes, Apatite, Feldspars, Pyroxenes, Amphiboles, Olivine, Muscovite, Biotite, Talc, Serpentine, Asbestos, Fluorite, Cryolite, Tourmaline, Garnet.

Petrology—Rocks as aggregates of minerals and as units forming the crust of the earth. The natural cycle of rock formation. The threefold subdivision of rock-kingdom. Igneous rocks, concordant and discordant igneous bodies, common forms of igneous rocks, *i.e.*, dykes, sills, laccoliths, batholiths, lopoliths, stocks and bosses, volcanic plugs and lava flows. Common textures and structures of Igneous rocks. Classification of Igneous rocks. Brief description of the following igneous rocks :—Granite, Syenite, Gabbro, Dolerite, Peridotite, Basalt and Pegmatite, Sedimentary rocks, their mode of formation, classification and brief description of the following types :—Sandstone, Grit, Conglomerate, Breccia, Shale, Limestone, Coal and Laterite, Metamorphic rocks, a brief idea about the origin of such rocks, the different agents and processes of metamorphism. Common metamorphic structures. Description of the following rock types :— Gneiss, Schist, Slate, Marble, Quartzite and Phyllite.

Palaeontology—Modes of preservation of plant and animal remains as fossils and their value in historical geology.

Stratigraphy—Elementary principles of stratigraphy; sub-divisions of the geological time scale; general characteristics of the major geological sub-division of India. The important physiographic features of India and their relation to geological history.

E (IV) MINE SURVEYING

Paper I

Exploratory Surveying—Use of hand instruments, namely, Prismatic Compass. Brunton Compass, Abney Level and Anerol Barometer.

Traversing with Compass Mounted on Tripod—Magnetic Declination and its variations. Surveying in the presence of iron or magnetic material.

Theodolite—Construction, use, and adjustments of the different types of transit theodolite.

Traversing with the Theodolite—Independent and Triangulation-supported traversing. Plotting by protractor and by rectangular co-ordinates. Adjustments of the closing error.

Triangulation—Measurement of base-lines; simple triangulation; satellite stations; the two-point and the three-point problems. Errors and their distribution.

Levelling—Use and adjustment of the dumpy level, and of the Y-level; levelling rods. Plotting of profiles. Precise levelling with special instruments and methods.

Tacheomatric Surveying—Tacheometer or stadia theodolite; stadia rods. Contouring for roads, ditches, railways.

Plane-tabling—Simple and telescopic alicades with Beaman Stadia arc. Contouring with the Abney and other hand levels.

Geographic Position—Determination of latitude, longitude and azimuth.

Measurement of Areas and Volumes—Computations, use of planimeter computing scale, Measurements of excavations and embankments.

Setting-out—Roads, railways, buildings, shafts, machine foundation and property boundaries.

Study of Errors—Sources, classes, propagation and growth. Treatment of non-systematic errors by the method of least squares.

E (V) METALLURGY AND ASSAYING

Metallurgy

Crystallisation of pure metals, solid solutions, eutectics, eutectoids and compounds from liquid and solid alloys.

Heating and cooling curves—different methods of plotting. Systematic study of various types of thermal equilibrium diagrams.

Hardening, tempering, annealing, normalising and case hardening of steel and microstructure consequent on these operations.

Recovery, Recrystallisation and grain growth. Aging—Thermal and strain aging. Plasticity of metals and alloys, hot and cold working. Some common methods of testing metals and alloys.

Underlying principles of measurement of temperature, Thermoelectric, electrical resistance, radiation and optical pyrometers.

Assay

The necessity and importance of securing a representative sample for analysis, conditions on which this depends. Hand sampling and mechanical sampling, Common methods of sampling coal ores, metals, etc. Lectures will be given to explain the principles underlying the analysis prescribed for the Practical course.

E (VI) HYDRAULICS

(*Paper*)

Hydro-statics : Fluid pressure at a point, pressure gauges, total pressure on flat and curved surfaces centre of pressure. Buoyancy, stability of floating bodies.

Hydraulic flow : Equation of continuity ; Bernoulli's theorem ; the momentum theorm ; linear acceleration of a liquid in a tank.

Flow through small orifices, time of emptying a tank. Measurement of flow in closed conduits—venturimeter, orifice meter. Elementary theory of losses in pipes—simple practical applications.

Hydraulic Pumps—Centrifugal and Reciprocating Pump—their installation and efficiencies. Simple problems on delivery and suction.

E (VII) PHYSICAL CHEMISTRY

(*Paper*)

Structure of Matter—Atomic theory ; electronic configuration and metallic crystals ; valence bonds—electrovalent, covalent and coordinate covalent bonds ; hydrogen bond ; metallic bond.

Chemical Calculations—Relation between mass, Volume, density and temperature of gases ; molecular weight and percentage composition ; effect of pressure and temperature on gaseous diffusion.

Gas Laws—Kinetic Theory of gases ; critical phenomena, liquifaction of gases ; vapour pressure ; diffusion.

Liquids and Solutions—Boiling point ; surface tension ; solubility and solution ; osmotic pressure and Vant Hoff's theory of solution—determination of molecular weight.

Chemical Kinetics—Laws of mass action and chemical equilibrium, equilibrium constants—determination of equilibrium constant.

Phase Rule—Components, phases and degrees of freedom ; phase diagram ; thermal analysis ; solid solution and eutectics ; one component and two component systems.

Thermochemistry and Thermodynamics—Laws of thermochemistry and their applications ; first and second laws of thermodynamics ; concepts of free energy, entropy, enthalpy and work function ; applications of free energy and entropy concepts.

Colloids—Preparation, properties and stability.

Electrochemistry—Faraday's laws of electrolysis, theory of electrolytic dissociation ; ionic conductivity ; strong and weak electrolytes ; activity and ionic strength ; oxidation-reduction reactions ; primary and secondary cells, hydrogen ion concentration and pH value ; theory of indicators ; determination of pH value.

E (VIII) ELECTRO-TECHNOLOGY (PAPER)

D. C. machines—Armature windings—Lap and Wave, simple and complex ; equalising rings. Detailed study of no load and load characteristics of generators and motors. Theory and construction of starters ; different methods of speed control of motors. Parallel and series running of generators and motors. Testing—determination of losses, efficiency, temperature rise, insulation, etc. Balancers—static and rotary types.

Alternating Current—Comparison of single-phase and polyphase systems ; measurement of power in poly-phase systems, solution of problems on circuits by mathematical and symbolic methods ; balanced and unbalanced circuits.

Detailed study of alternators and transformers—E. M. F. equation ; windings ; determination of regulation and efficiency. Induction motors—rotating magentic field ; squirrel cage and slip-ring motors ; circle diagram ; methods of starting. Main working principles of synchronous motors, rotary converters and mercury arc rectifiers.

E (IX) ORGANIC CHEMISTRY, FUELS AND REFRACTORIES

Organic Chemistry—Introduction to Organic Chemistry; simple aliphatic hydrocarbons, aldehydes, ketones, acids, esters and ethers ; simple aromatic hydrocarbons and their derivatives-hydroxy, nitro, amino and halogan derivatives.

Fuels—Introduction to fuel technology.

Solid Fuels—Wood, peat, lignites, coal and coke; origin and formation of coal; nature and classification of coal; characteristics, distribution and reserves of coal with special reference to India; storage and transport of coal; washing of coal; spontaneous combustion; destructive distillation of coal at low and high temperatures; manufacture of metallurgical coke and recovery of bye-products; fusibility and clinkering of coal ash; utilization of pulverised coal.

Liquid Fuels—Different kinds of liquid fuels. Petroleum Technology—occurrence, composition and constituents of petroleum; distillation of petroleum and products derived from it; cracking processes; motor fuel and its refining; knock, octane number and cetane number, lubricating oils—refining, chemistry and testing; coal tar and its distillation products; production of synthetic liquid fuels.

Gaseous Fuels—Producer gas, semi-producer gas, water gas, blast furnace gas, coal gas and natural gas; their manufacture, composition and calorific values; chemical reactions and thermal changes involved in their production.

Mine Atmosphere—Composition, physiological and explosive properties of mine gases; black damp, white damp, fire damp, stink damp, nitrous fumes, etc.; mechanism of combustion and explosion of mine gases; resperation and effects of oxygen.

Calorimetry—Types of calorimeters for estimating the calorific values of solids, liquid and gaseous fuels; Chemical calculations involved in fuel technology.

Refractories—Refractory materials: Nature of refractories; characteristic properties of refractories; classes of refractories.

Acid refractories—Chemical composition; silica bricks; clay—the impurities in clays; manufacture of fire-clay bricks.

Basic refractories—Magnesia; lime; dolomite; bauxite.

Neutral refractories—Graphite; chromite; neutral refractories and furnace lining; protection of refractories.

Testing of Refractories—Study of expansion, contraction, specific heat, porosity, permeability, fusibility; resistance to compression; slagging test; impact test; abrasion test; spalling test.

Refractory kilns—General Principles; laboratory kilns; periodic kilns; continuous compartment kilns; tunnel kilns.

Uses of refractories—In the ferrous and non-ferrous metal industry; in the generation of power; in the glass and cement industry and in lime kiln; in gas production, paper mill and enamelling.

E (X) METALLURGY AND ASSAYING (SESSIONAL AND PRACTICAL)

Complete analysis of common ferrous and non-ferrous alloys, ores, slags and fluxes, fireassay of some common metals.

E (XI) ELECTRO-TECHNOLOGY (SESSIONAL)

1. Measurement of leakage current and insulation resistance of a poorly insulated cable.
2. Locaion of faults in an actual underground cable.
3. Study of a 3-ϕ (three-phase) unbalanced circuit containing R. L. and C.
4. Study of a 3-wire D. C. distribution problems (both balanced and unbalanced) with the help of Rotary Balancers.
5. Study of A. C. motor starters (*viz* (*i*) Direct-on push-button Type, (*ii*) Star-delta type, (*iii*) Auto-transformer, etc.
6. Calibration of A. C. House-service meter on 220 V., 1-ϕ A. C. supply with resistance load.
7. Measurement of power and power-factor of a 1-ϕ A. C. circuit by (*i*) 3-ammeter method and (*ii*) three voltmeter method.
8. Connection of a D. C. generator on to D. C. bus-bar supplying power and to transfer the load of the other m/c to this machine and to shut off the other machine.

9. Determination of speed-torque (Mechanical characteristics) curve of a D. C. shunt motor.

10. Determination of Efficiency-Vs-load curve for a D. C. machine by
   (a) Swinburn's method.
   (b) Hopkinson's method.

11. Determination of different losses in a D. C. machine by "Separation of loss-method."

12. Load characteristics of a D. C. Generator with its field—
   (i) Separately excited (using shunt field).
   (ii) Shunt excitation (using shunt field).
   (iii) Series excitation (using shunt field).
   (iv) Compound-excitation (using both the fields).

13. No load and load characteristics of a 3-phase alternator.

14. Voltage, current and power relationships of converting machines *viz.*, of (a) 1-ϕ Mercury arc (full wave) rectifier and (b) 1-ϕ rotary convery.

15. Power factor improvement of a 1-ϕ A. C. Induction motor by means of a condenser.

16. Different connections of transformers to study 3-phase to 1-phase connections.

17. Determination of voltage regulation of a 3-phase transformer from open-circuit and short-circuit tests.

18. No-load and rotor blocked tests of 3-phase
   (a) Squirrel cage induction motor
   and (b) Slip ring induction motor.
to plot the circle diagrams and to study the motor performance from the circle diagram.

19. Ward-Leonard method of fine speed control of a D. C. motor.

20. Synchronizing of a 3-ϕ alternator on to the Bus-bar and transference of load from one machine to the other.

E (XII) ORGANIC CHEMISTRY, FUELS AND REFRACTORIES (SESSIONAL)

Detection of elements of simple organic compounds.
Sampling of Coal, coke and coal dust in mines.
Proximate analysis of coal and coke.
Determination of caking index.
Ultimate analysis of coal-determination of nitrogen, sulpher and phosphorous.
Determination of Calorific values of solid, liquid and gaseous fuels.
Testing of lubricants—Viscosity and flash point.
Analysis of gaseous fuels.

E (XIII) MINING (PART II)

Paper I

Principles and Practice of Metalliferous Mining

Mineral Deposits—Types; lodes, beds, masses, alluvial deposits. Shape, extent, features, irregularities and disturbances.

Prospecting—Geological reconnaissance. Surface or manual prospecting; geophysical aids, value of old heaps, workings and records.

Alluvial or placer Mining—Ground sluicing; hydraulicking; pump hydraulicking; and dredging. Stripping methods, drift mining.

Open pit Mining—Hand-loading pits, with shaft, with incline, with rope way, with level traction. Pits with mechanical shovel, with drag excavators, with bucket excavators and locomotive traction.

Mine Development—Type, location, size and sinking of shafts, vertical, inclined and adit. Shaft station, pit bottom, winze, raise cross-cut, ore-pass. Methods of opening and working of stopes.

Mining Methods—Room and pillar; pillar and stall; bord and pillar longwall; back stoping; rill stoping; flat back stoping; sub-level stoping; underhand stoping; overhand stoping; breast stoping; top slicing, bottom slicing, sub-level caving, and block caving.

Shot-hole Drilling—Percussive drilling ; hand tools and manual drilling ; Rock drills, pneumatic and electric ; modern drilling tools, shaping and sharpening tools ; precautions against silicosis.

Haulage—Transport in stopes, chutes, sledges, conveyors, etc. Underground stations and ore-bins ; trams and haulage ; skips and cages ; surface arrangement.

Drainage—Vertical distribution of underground water ; drainage measures on surface and underground ; Adits and water stoppings ; precautions against irruption of water underground ; pumps—main and auxiliary types. Sinking pumps and station pumps.

Miscellaneous—Ladders and travelling ways ; organisation and management ; Metalliferous Mines Regulations in India and abroad.

E (XIV) MINING (PART II)

Paper II

Power Supply at Mines and Mining Machinery (Mechanical).

Boilers—Different types. Care and management. Feed Water heaters steam super-heaters, Economisers, use of condenser in a power plant, Efficiency of boilers. B. O. T. Regulations for boilers.

Drainage—Steam and compressed air pumps. Pulsometer, Reciprocating and centrifugal pumps. Calculation of pressure of water in pipes and behind daus on surface and underground, capacity and horse power of pumps.

Haulage—Tubs and mine cars ; Gravity and animal haulage, best gradient for loaded and empty tubs ; Ropes for haulage purposes, capping and splicing of ropes. Self-acting inclines, equipment, Description and working of different systems of rope haulages. Calculations relating to haulage by Locomotives, conveyors, shuttle cars, Aerial ropeway.

Winding—Equipment for vertical and inclined shafts ; wooden, rail and rope guides. Ropes of different types ; capping and splicing of ropes ; examination and preservation of ropes. Methods of winding Drum, Koepe and other systems. Winding from different levels. Pit frames for vertical and inclined shafts. Calculation of sizes of steam winding engines, depth indicators, brakes, detaching hooks, overspeed and overwind preventors, slow banking and other safety devices. Cages—single and mulptiple decked. Signalling. Layout of pit head. Details of banking and screening equipment.

Internal Combustion Engines—Gas, petrol and Diesel Engines. Air-cycles for internal combustion engines—Efficiency and other details of such engines. Diffculty of using such engines underground.

Loaders and Convevors—Different types. Calculation of their capacities and power requirements. Capital and maintenance cost.

Coal-cutters—Different types. History of development. Trend of progress in their design and use, Modern coal fall machinery. Auxiliary machinery for coal face.

E (XV) MINING (PART II)

Paper III

Power Supply at Mines and Mining Machinery (Electrical)

Power Factor Improvement—Effect of low power Factors ; Methods of improvement—relative merits ; Economic limit of power factor; Improvement by using special apparatus.

Transmission of Power in the alternating current system—Three phase four-wire system. Calculation of current in the neutral. Line constants Resistance, Line inductance.

Performance of short and moderately long Transmission System—Single-phase system, three-phase system. Efficiency of transmission, line voltage regulation. Comparision between the overhead transmission and underground transmission systems.

Line conductors and supporting structures—Conductor materials, supporting structures—wood-poles, steelpoles, reinforced concrete poles, steel towers, Spacing of conductors, span length. Mechanical consideration of the Transmission Lines.

Insulators—Insulating materials; Testing of insulators.

Underground Cables—Materials used for cable constructions. Different types. Their construction. Methods of cable laying. Installation of shaft cables-methods of suspension. Calculation of cable sizes for mines.

Generation—Private generation *Vs.* Public supply.

Power-supply Economics—Investment cost; operating cost; load-factor, Diversity-factor.

Alternators—Constructional features of alternator; advantages of rotating field magnets; Advantages of three-phase systems; Automatic voltage Regulators.

Synchronous Motor—Theory of action. Vector Diagram. Starting of synchronous motors.

Induction Motor—Slip-ring and squirrel cage motors. Methods of starting, star/delta starter. Power factor improvement.

Potary Converter—Current and voltage ratios. Method of starting and paralleling. Voltage regulation. Efficiency.

Winder—With Ward-Leonard control.

E (XVI) MINING GEOLOGY (PART II)

Petrology—Igneous rocks as products of consolidation of magmas. Process of consolidation magmas. Eutectic, solid solution and peritectic relation in magmas. Origin of igneous rocks. Assimilation and Differentiation. Sedimentary rocks as products of the celebrated natural cycle. Study of size and shape of grains in sediments and their implication. Study of heavy mineral content in sedimentary rocks and its importance. Coal and limestone as sedimentary rocks. Metamorphism and metamorphic rocks. Contact, thermal, regional (dynamo-thermal), cataclastic and plutonic metamorphisms. Their mechanisms and products. Important economic minerals associated with metamorphic, igneous and sedimentary rocks.

Palaeontology—Fossils and their association with coal and petroleum bearing horizons. Fossiliferous limestones. Common fossil forms associated with the coal beds and petroleum bearing horizons with special reference to India.

Stratigraphy—Study in some details, of the Archaean, Gondwana, and Tertiary periods, and of the Deccan traps, with particular reference to the deposits of economic minerals contained in them.

Economic Geology—Scope of the subject. Study in brief of the important processes of formation of economic mineral deposits in nature. Definition of ore and gangue minerals, ores, and tenor of ores. The different common forms and structures of ore bodies. Metallogenetic provinces and periods. The geological conditions governing the formation of peat and coal. In situ and drift theories. Origin and preservation of petroleum in rocks.

Study, in some detail, of the important economic mineral deposits of India with particular reference to their mode of formation, structure, association, extent and mode of occurrence, and how they govern the method of mining to be applied. Surface indications of mineral deposits. Different methods of prospecting of mineral deposits.

Different methods of collection of samples in the field from coal-seams and economic mineral deposits.

Engineering Geology—Building stones and road metals and their important characteristics. Stability of hill slopes and of open cuts, inclines and drifts in mines.

E (XVII) MINE SURVEYING (PART II)

Surveying with Miners' Dial—Use and adjustment of various types of Dials.

The Mine Theodolite—Transit Theodolite with or without additional interchangeable side and top telescope for steep sights. The effect of errors of instrumental adjustment on the accuracy of undergr und surveys in flat and steep workings respectively. Importance of the transiting of compensation method. Precision traversing for holing through hobs, The more expeditious traversing methods for routine and periodic surveys. Connection of the mine triangulation with the Geodetic triangulation.

Correlation of underground and Surface surveys—Plumb-wiring in one vertical shaft, and in two vertical shafts; traversing inclined shafts and various combinations. Correlation by precise magnetic methods using orientation lines to correct for variation of magnetic declination and instrument errors.

Underground Setting-out—Setting out a point having given co-ordinates giving and maintaining direction and gradients for inclined shafts, slopes, levels; consideration of the accuracy required for any given work; ranging curves for rope haulage roads; setting out vertical curves for shafts.

Stope and Face Surveying—Use of Miners' dial, hanging compass with hanging clinometer, and Locke level for surveying excavations. Tape-triangulation, radiation, and traversing methods.

E (XVIII) COAL AND MINERAL DRESSING

1. Definition, scope and limitations—Differences between mineral and ore, economic significance of dressing, properties of minerals and development of different dressing methods, recovery and ratio of concentration, present position of mineral dressing in India and its future potentialities.

2. Hand picking—The process and its mechanics, performances and economics.

3. Preliminary minerological and minerographic studies of minerals, liberation and severance; methods and determination.

4. Crushing and grinding—Primary breaking operation, breaking units, their performances and applications. Intermediate crushing by gyratory crusher, come crusher, rolls and impact crusher, crushing efficiency, their relative merits.

Grinding—tumbling mills, ball mill, tube mill, rod mill, their operation and performances, reduction ratios, costs and capacities, machine limitations, closed and open circuit operations.

5. Sizing and classification—(*a*) Screening-objects, scale of screening, screen analysis, sizing curves, methods of screening and types of screens—revolving vibrating, screening efficiency, capacity and limitations.

(*b*) Classification-Laws of classification, wet and dry methods types of classifier-stationary, mechanical, centrifugal, hydraulic and cyclones.

(*c*) Gravity Separation—Free settling ratio, teetar column, jigging theory, Jigbeds and their actions, types of Jigs, their capacities, sink float-concentration criterion, densities of mineral classes, types of heavy liquid and heavy media separation, their scope and limitation, production and properties of heavy suspensions, spiral concentration and other slime recovery units, concentrating table-behaviour of minerals on riffled tables, vanners and tilting tables.

6. Flotation—Physico-chemical principles, chemistry of flotation reagents, steps in flotation—(*a*) Forth formation, formation of bubble mineral complex, (*b*) Collection-function of collector, anionic cationic and neutral collectors, choice of collector, (*c*) modification-activation, depression, floculation, dispersion, function of modifying agent and its choice, PH Control, (*d*) Conditioning of pulp and its density.

Bulk and differential flotation, flotation machines, their operation and economics with special reference to Indian practice.

7. Electrical concentration—Principles of electro-static and electromagnetic separation, Electro-static and magnetic separators and their performances, Behaviour of minerals in electro-static and electromagnetic separators under dry and wet conditions.

8. Miscellaneous concentration—Amalgamation, reduction roast, calcination.

9. Dewatering—Thickening, sedimentation, filtration and drying, filters and filter fabrics, vacuum filter, pressure filters, centrifuge and drying hearths.

10. Accessories to ore treatment plants-chute and launders, conveyors and elevators pumps, feeders and distributors.

E (XIX) ECONOMICS OF MINING

The Mineral Industry—Importance to the Community. Difference from other industries and resemblances. Mineral Reserves the basis of the Industry.

Sampling and Ore Valuation—Methods employed in different cases; precautions to be taken; calculation of average reef values and widths, of average stopping values and widths and of average milling values and widths; estimation of average tonnages and values in a mine, percentage sorted, percentage recovered, assay-plan factors, limits of payability. Independent sampling—procedure and precautions. Sampling Alluvial Deposits and Dumps.

Accidents—Classification of accidents; statistics to show man-hours lost and compensation paid, causes and prevention of accidents dealing with the injured and rescue work.

Labour—Cost of skilled and unskilled labour; arrangement and supervision of labour; health of workmen, diseases associated with mining work; housing and feeding of workmen; labour-saving appliances.

Mine Accounts—Principles of modern Book-keeping; Engagement and payment of workmen, conditions of service, books and forms connected with the engagement and payment of workmen, with the purchase and distribution of stores, and with the sale of product. Working analysis and summaries; analysis of costs; head office books and balance sheet; depreciation and amortisation.

Legislation—Main provisions of Mining Laws and Regulations.

General—Considerations affecting the value of mineral deposits the choice of methods and machinery; price of metals, nature of country; labour supply, location in relation to transport; water supply; fuel supply; working costs; examination of mining properties and preparation of reports; mineral statistics.

E (XX) PROJECT THESIS

Planning and development of a modern mine or a Section layout either by Bord and Pillar or Longwall methods. Design and maintenance of mining machineries and equipments.

Thesis on stowing, flow of liquids and sand: stowing by mechanical and pneumatic methods. Transportation by mechanical means or Hydraulic; Roof Control, Safety in Mines; or any other allied subject.

E (XXI) MINING (SESSIONAL)

Utilisation of mining machinery for various mining purposes:—

Sketching—

E (XXII) MINING GEOLOGY (SESSIONAL AND PRACTICAL)

1. Study of symmetry elements of the different crystal systems.
2. Interpretation of simple geological maps and drawing of sections.
3. The use of Clinometer Compass.
4. Working out, graphically and otherwise, of problems relating to dip strike, and thickness of beds and completion of outcrops on contour maps from given data.
5. Drawing of diagrams illustrating important geological structures and forms of igneous rocks.
6. Determination of Specific Gravity of minerals and rocks. Use : Jolly's, La-touche's and Walker's Balance.
7. Identification, in hand specimens, of the minerals given in the following list from a study of their physical properties:—

Diamond, Graphite, Bauxite, Stibnite, Chromite, Chalcopyrite, Malacite, Azurite, Chalcocite, Bornite, Haematite, Magnetite, Siderite, Limonite, Galena, Magnesite, Pyrolusite, Psilomelanem, Braunite, Cinnabar, Niccolite, Pyrrhotite, Pyrite, Cassiterite, Wolframite, Shpalerite, Smithsonite, Quartz, Kaolinite, Silliminite, Kyanite, Corundum, Calcite, Dolomite, Gypsum, Barytes, Apatite, Feldspars, Pyroxenes, Amphiboles, Olivine, Muscovite, Biotite, Talc, Serpentine, Absbestos, Fluorite, Cryolite, Tourmaline, Garnet.

8. Identification, in hand specimens, of the rocks given in the following list from a study of their important characteristics :—

Granite; Syenite, Gabbro, Dolerite, Peridotite, Basalt, Pegmatite, Sandstone, Grit, Conglomerate, Breccia, Shale, Limestone, Peat, Lignite, Bituminous coal, Anthracite, Laterite, Gneiss, Schist, Slate, Marble, Quartzite and Phyllite.

9. The petrological microscope, study of its different parts with neat sketches.

10. Identification, under the petrological microscope, of the rock-forming minerals given in the following list :—

Quartz, Orthoclase, Plagioclase, Microcline, Muscovite, Biotite, Hornblende, Augite, Olivine, Apatite, Zircon, Sphene, Garnet, Kyanite, Sillimanite, Tourmaline.

11. Interpretation of geological maps of the different coal and metal bearing areas of India.

12. Calculation of reserves of coal and ores, from available data, working out, graphically or otherwise, of problems relating to faults of different kinds.

13. Identification, under the petrological microscope, of the rock types given in the following list :—

Granite, Syenite, Gabbro, Dolerite, Basalt, Pegmatite, Sandstone, Shale, Gneiss, Schist, Marble, Slate, Khondalite, Charnockite, Kodurite and Gondite.

14. Identification of the following ore minerals, under the ore-microscope, from a study of their properties in reflected light :—

Galena, Pyrite, Chalcopyrite, Sphalerite, Psilomelane, Magnetite, Haematite and Pyrolusite.

15. Recognition, in hand specimens, of the following genera of fossils :—

Gangamopteris, Clossopteris, Vertebraria, Ptilophyllum, Nummulities, Alveolina, Monograptus, Zaphrentes, Calceola, Arca, Cardita, Productus, Spirifer, Turritella, Physa (Bullinus), Nautilus and Ceratities.

16. Mechanical analysis of loose sediments and sedimentary rocks by panning and in the medium of heavy liquids.

17. Determination of ore-minerals by physical and chemical tests.

18. Examination of coal under the microscope.

FIELD WORK

During the Third Year Class there should be excursions to places of geological interest. The students should study in the field the common principles of field Geology. They should study the mode of occurrence of the mineral deposit they have visited, on the surface as also in the Mine. They should present a record of their work in the field in the form of a report duly signed by the teacher who guided the work.

During the Fourth Year Class the candidates must visit a coal mine and any one of the following :—

(1) A Mica Mine.

(2) A Metal Mine.

They should study the mode of occurrence of the deposit, calculate the reserves, interpret the possible mode of origin of the deposit, collect systematic samples, and should study the method of mining of the deposit and its relation to the mode of occurrence. Each student should present a record of his work in the form of a report duly signed by the teacher who guided the work.

E (XXIII) MINE SURVEYING (SESSIONAL AND PRACTICAL)

Mining Camp—Surveying a part of a mine and preparing plans and sections.

E (XXIV) COAL AND MINERAL DRESSING (SESSIONAL)

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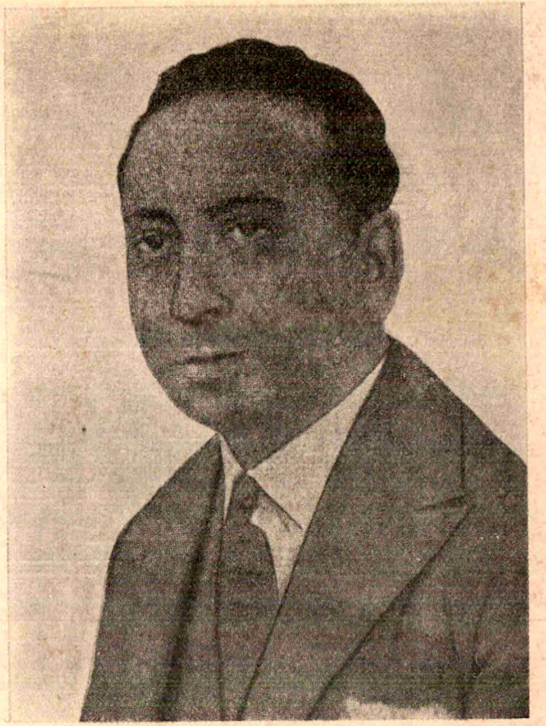

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THE ORIGINS OF THE EMOTIONAL RHYTHM OF THE RIME OF THE ANCIENT MARINER

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1. "My endeavours should be directed to persons and characters supernatural, or at least romantic; yet so as to transform from our inward nature a human interest and a semblance of truth sufficient to procure for these shadows of imagination that willing suspension of disbelief for the moment, which constitutes poetic faith." In these words Coleridge seems to explain the poetic origins of *The Rime of the Ancient Mariner*. This poem comes from the inward nature of the poet, from his own deeper experiences; and winnowed by the shaping spirit of Imagination, the story acquires 'a human interest and a truth'. The experience proper is too complex and varied, like any other significant experience All that the poet read or lived through is bound to enter into it. But it is not the mere expression of the contents of memory that we find in the significant experience called the poem. The researches of Lowes are no doubt valuable inasmuch as they attempt at analysing the mental apparatus that preceded the actual composition of the poem. But these researches ignore the poet's own real experiences in the world of human beings, The life that Coleridge lived, the meaning that he realised in and from his experiences, the suffering that impressed him and transformed him, these cannot be ignored. An important part of the meaning of the poem is made up of Shakespeare's vision and interpretation of life; but this vision is relived and revived for us. Through it comes

home to home to us through Coleridge, it is not divorced from the poet's own actual experiences.

2. At the outset I will note some of the expressions reminiscent of Shakespeare; and we can begin with *The Merchant of Venice*. In the opening scene we find Gratiano speaking to Antonio about the intimate connection between mind and body :

"There are a sort of men, whose visages
Do cream and mantle like a standing pond ; . . . .
As who should say, 'I am Sir Oracle,
And when I ope my lips, let no dog bark !' ".
(1.1.88-94)

The expression 'As who should say' is intended to capture a note of mystery. Coleridge recaptures it and adds an element of awe in the following lines :

"with sloping masts and dipping prow,
As who pursued with yell and blow
Still treads the shadow of his foe,
And forward bends his head, ..." (45-48)

The expression borrowed is not a mere associative link, but an indispensable element in the controlling conscious poetical energy. It is not a simple fusion of a remembered phrase with a new situation. Take another passage. The Prince of Morocco opens the golden casket and cries,

"O hell ! what have we here ?
A carrion Death, within whose empty eye
There is a written scroll !" (2.7 63-64)

At once we are reminded of Death and her mate voyaging towards the Mariner, just as the Prince was greeted by Death and a written scroll. The transmutation of these two is revealed through an emphatic interrogation in the lines :

"Is that a Death? and are there two?
Is Death that woman's mate?" (188-9)

The apparent symbolism of the caskets comes out in the hands of Coleridge with all the richness of human suffering. It is a suffering that takes us from Death to Life-in-Death and *vice versa*. The life of Coleridge moved in these two spheres with an intense consciousness of suffering and of the destiny of the individual. Though the lines referred to have only a verbal similarity, the thought captured by Coleridge is at the very basis of the Shakespearean tragedy.

3, Let us turn to the tragedies of Shakespeare. The nurse brings the news of Tybalt's death to Juliet and narrates the incident in a way that makes Juliet highly nervous and pathetic. She enters with the cords, throws them down and says :

> "Ah, well-a-day ! he's dead, he's dead, he's dead !
> We are undone, lady, we are undone !—
> Alack the day !—he's gone, he's killed, he's dead !"
> (3.2.37-9)

The rapidity, intensity and ambiguity conveyed by these lines makes the fact inexplicable and mysterious. The same effect is intended to be conveyed by the following lines of the Mariner :

> "Ah ! well-a-day what evil looks
> Had I from old and young !" (139-140)

A mysterious awe inspires these words ; and in their sore distress the shipmates begin throwing the whole guilt on the Mariner, just as the Nurse holds Romeo guilty of a crime.

4. We pass to a lighter vein in the next passage. In the scene where Malvolio is put to ridicule, we find Malvolio talking to himself after Olivia has come and gone. He describes the style he has to adopt :

> "a sad face, a reverend carriage, a slow tongue,
> in the habit of some air of note, and so forth."
> (3.4 80-1)

There we have the peculiarly Elizabethan association of sadness with wisdom. This has acquired a unique position and value in the closing lines of the *Ancient Mariner* :

> "He went like one that hath been stunned,
> And is of sense forlorn :
> A sadder and a wiser man
> He rose the morrow morn" (622-5)

God and his universe are not accepted by the Mariner as facts alien or external to his existence ; rather, he realises them in himself by integrating them to his consciousness. A new life of sadness and wisdom looms large over the horizon of love and beauty.

5. In these passages we find Coleridge consciously or unconsciously falling on certain typical lines and words of Shakespeare and providing them with a new and rare significance. There are places where we have the specific Elizabethan turn of expression. The king in the first part of Henry VI informs Gloster before he meets the ambassadors :

"I shall be well content with any choice
Tends to God's glory and my country's weal" (5.1.26-27)

Tending to the Country's weal is an Elizabethan usage; and Coleridge's studies in Elizabethan Literature may have been responsible for the following lines:

"See! see! (I cried) she tacks no more!
Hither to work us weal" (167-168)

The word and the syntax are equally archaic; and they may be in keeping with the peculiar atmosphere the poet intends to evoke. But the way they are introduced is suggestive of that way of looking at men and things which is particularly Elizabethan. It is in this light that we have to take the following example also. King Edward informs Stanley in King Richard III—

"Have I a tongue to doom my brother's death,
And shall that tongue give pardon to a slave?" (2.1.102-3)

The conflicting position in which Edward was placed is similar to that of Tantalus. It is again the same as that of the Mariner who finds water everywhere but not water that can quench his thirst.

"Water, water, everywhere,
And all the boards did shrink" (119-120)

This shrinking is on the same level as that of Edward's tongue. It is a shrinking that embodies the emotional rhythm of sin, loneliness and redemption. We are made to shrink into 'the land of ice and of fearful sounds,' as there is a fall and the corresponding loss of all innocence. There is a retreat in the nature of the primal creation; and water symbolising the instinct is eagerly awaiting the arrival of flames, fire and light, the arrival of the intellect. It is this arrival that is embodied in the shrinking; and it takes the form of an enduring conflict between instinct and intellect.

Let us turn towards the closing scenes of *Julius Caesar*. Cassius asks Brutus on the plains of Phillippi,

"Then, if we lose this battle,
You are contented to be led in triumph
Thorough the streets of Rome." (5.1.110-2)

Here the word 'thorough' is very significant; and it comes back to us with a series of pregnant associations in the arrival of the bird:

"At length did cross an Albatross,
Thorough the fog it came" (63-4)

There is a jarring of the two sounds 'thorough' and 'fog' as in the case of 'thorough' followed by long vowels in the lines of Shakespeare. This jarring is unfolded gradually in both the cases.

6. There are three more plays still to be noticed Macbeth was firm and bold enough even when the enemy was fast approaching. As a servant enters, he cries out :

> "The devil damn thee black, thou cream-faced loon !
> Where gott'st thou that goose look?" (5.3. 11-12)

The Mariner, as we will discover later on, has something of Macbeth in him. But in the beginning it is the Wedding-Guest who echoes these lines in his dramatic outburst of impatience :

> "Hold off ! unhand me, grey-beard loon ! (11)

It is a deliberate provocation ; but the quiet resignation of an austere and majestic mind responds quietly and firmly. There is tyranny of the 'glittering eye' still ; and it serves as an incantation to hold the wedding-guest in awe. This tyranny takes us to a passage in *Cymbeline*. Imogen tells Pisanio

> "Ere I could
> Give him that parting kiss which I had set
> Betwixt two charming words, comes in my father,
> And like the tyrannous breathing of the north
> Shakes all our buds from growing." (1.3. 33-7)

The atmosphere governing the word 'tyrannous' is transferred to the wind in the story of the Mariner. The storm-blast now begins controlling :

> "And now the storm-blast came, and he
> Was tyrannous and strong :
> He struck with his o'er taking wings,
> And chased us south along" (41-44).

The skinny hand, the grey beard, the glittering eye and the tyrannous wind follow one another in swift succession. They move rhythmically keeping time to the beat of the pulse. A certain waywardness surrounds the idea of a pulse-beat and it reminds us of *Tempest*. Ariel takes the Command from Prospero to bring the ship ; and Ariel replies :

> "I drink the air before me, and return
> Or ere your pulse twice beat." (5.1. 102-3)

The mysterious suddenness and the unity of the rhythm are striking enough. And when the Mariner turns to heaven to pray, he experiences the same rhythmic beat :

"I closed my lids, and kept them close,
And the balls like pulses beat ;" (248-9)

7. So far we have noticed some of the Shakespearean turns of expression appearing in this poem. These illustrations sufficiently reveal that the mind of Coleridge was saturated with the plays of Shakespeare and that the poetic imagination has shaped the diverse forms from the varied plays into a synthetic unity. It remains to be seen how far the greater and more enduring thought of Shakespeare's tragedies is at the back of the poem. The crime and the consequent punishment, the atonement and the purgation, the passive suffering and the quiet resignation to the inevitable, that are movingly narrated in the poem take us to the tragedies of Macbeth, Lear and Hamlet. We begin first with Macbeth. One of the weird sisters prophetically describes the story of a Mariner :

"Sleep shall neither night nor day
Hang upon his pent-house lid ;
He shall live a man forbid :
Weary seven-nights nine times nine
Shall he dwindle, peak, and pine :
Though his bark cannot be lost,
Yet it shall be tempest-tost" (1.3. 19-25)

These lines verily constitute the basis framework of Coleridge's poem. The bark was not lost, but was carried away through the mist and the storm. The South Pole spirit demanded vengeance; and the Mariner led a forbidden life. He had to endure the knowledge of death, the awareness of his guilt. He was 'alone on a wide wide sea'. These seven lines spoken by the weird sister summarise the whole poem of Coleridge ; and the mystic number too is repeated in the poem. Describing the movement of the bird, the Mariner observes :

"In mist or cloud, on mast or shroud,
It perched for vespers nine ;
Whiles all the night, through fog-smoke white,
Glimmered the white moon-shine." (75-78)

'It perched for vespers nine' as the ship returned northward through fog and floating ice ; and the poem we may remember is in seven parts. The purgation of the Mariner is heralded by nine vespers and it proceeds in and through seven stages. Moreover, 'vespers nine' is a significant expression. The word 'vesper' cannot be taken in its usual familiar sense. In Shakespeare, it has a very uncanny association as the passage in *Antony and Cleopatra* reveals. Antony in a despondent mood tells Eros :

"Sometimes we see a cloud that's dragonish ;
A vapour sometime like a bear or lion,
A tower'd citadel, a pendant rock,
A forked mountain, or blue promontory
With trees upon't, that not unto the world,
And mock our eyes with air ; thou has seen these signs;
They are black vesper's pageants" (4.14.2-8)

Shakespeare presents here 'man's unstable hold of his very entity'. This instability is literally transferred to the perching of the bird.

'Vesper's nine' is reminiscent of the 'black vesper's pageants' ; and it is also contained in 'seven-nights nine times nine'. It impiles a charm, an incantation ; and the weird sisters do thus interpret the term. Just when Macbeth is about to enter along with Banquo, all of them sing :

"Thrice to thine, and thrice to mine,
And thrice again, to make up nine :—
Peace !—the charm's wound up". (1.3.33.35)

The charm has led the ship into silence. The ship has been suddenly becalmed and the Eumenides are ranged against the new Orestes and his Apollo. The becalming of the ship thus acquires a new significance in this weird context. We are aware of a sudden loss of life and energy, and as we pass to the following lines, we feel a strain, a tension, in spite of all its quiescence.

"Day after day, day after day,
We stuck, not breath nor motion". (115, 6)

Here we have a tension that leads us on to a state of mental paralysis commonly found in sleep that emerges from a melancholic mood of exhaustion. The weird sister, we know, has prohibited sleep. The Mariner must be awake literally and metaphorically. He must needs examine himself critically and carefully. Let us go back to Macbeth. After despatching Duncan quietly, Macbeth approaches his wife in an excited state of nervous tension, and tells her :

"Methought I heard a voice cry, 'sleep no more !
Macbeth does murder sleep',—the innocent sleep;
Sleep that knits up the ravell'd sleave of care,
The death of each day's life, sore labour's bath,

Balm of hurt minds, great nature's second course,
Chief nourisher in life's feast" (2.2.33-38)

Macbeth knows the value and the necessity of sleep. The Mariner who has something of the soul of Macbeth, knows this too well. But the furies of guilt and accusation are after him and he is all alone on a prolonged dark night of the soul. And slowly he comes to bless the creatures of the sea that were despised by him earlier. He 'blessed them unaware', blessed them in his heart. Melancholy slowly gives way to the moment of blissful quiescence which arises in the lines—

"Oh sleep! it is a gentle thing,
Beloved from pole to pole!
To Mary Queen the praise be given!
She sent the gentle sleep from heaven,
That slid into my soul". (292-6)

'Heaven's Mother sends' her grace to the lone Mariner and like music, sleep slides into the soul. It is so spontaneous and gentle. After such a sleep there is the resurrection in the grave-yard. But there is something still withholding the resurrection, something yet coming in the way of the final moment of purgation. The curse lives for him mysteriously and the 'lonesome spirit' from the South Pole pursues him still. It stops unwillingly as the Mariner comes to realize the necessity of conscious penance permeated by the spirit of love.

There are interesting parallels regarding the resurrection too. Macbeth sees the ghost a Banquo and is taken aback:

"If charnel-houses and our graves must send
Those that we bury back, our monuments
Shall be the maws of kites" (3.4 71-3)

But such is the destiny of the Mariner that every soul passed him like the whizz of his cross-bow; and the curse lives for him in the eyes of the dead men. Later the bodies of the crew are 'inspirited' and the ship moves on as 'the dead men gave a groan'. 'We were a ghastly crew', he admits. He was cast into a trance and the angelic power causes the ship to move. It is strange to see 'these dead men rise'; but rise they did. He could not prevent it. And when he comes back to his senses he finds the strange spectacle:

"The dead men stood together,
All stood together on the deck,

For a charmed-dungeon fitter :
All fixed on me their stony eyes,
That in the Moon did glitter" (433-7)

This was the source of his glittering eye. The dead men live in him. The thought and the expression are reminiscent of Macbeth.

As in the case of Macbeth, so do we here find the emphasis placed on the eye. It is the eye that reveals the primeval urges of the soul and transports the individual to the world of the spirits:

"Each turned his face with a ghastly pang,
And cursed me with his eye" (214-5)

One after another his shipmates drop down dead, as Life-in-Death begins her work on the Mariner. This is indicated by that silent curse emanating from the eye of the dead. It is too terrible.

"But oh! more horrible than that
Is the curse in a dead man's eye! (259-260)

The peculiar significance of these eyes is to be read along with the glittering eye of the Mariner and of the poet. Dorothy Wordsworth, Hazlitt, Sterling and many others noticed the glittering eye of the Poet. Sterling clearly states that Coleridge has the glittering eyes of the Ancient Mariner. In Macbeth, on the other hand, we find the hero addressing the ghost thus :

"Thou hast no speculation in those eyes
Which thou dost glare with" (3.4. 95-6)

Here it is evident that the glittering eye is the eye beaming with the powers of speculation ; and this takes us back to the identity of Coleridge with the Mariner.

8. Let us now turn to the other tragedy of Hamlet. Polonius instructs Ophelia how she should pose when Hamlet approaches her ; and then he observes

"With devotion's visage
And pious action we do sugar o'er
the devil himself".

This is what Claudius has been doing all these days ; and he at once feels the sting :

"How smart a lash that speech doth give
my conscience!" (3.1 50)

This line provides the basis for the Mariner's peculiar attitude towards a confession. The Mariner draws near to the fateful moment in his life ; and his face reveals the deepening gloom of horror and misery which wrenches his body-and-soul. He is unwilling to confess his crime even now; and this mood of unwillingness sends the moments of agony crying for the necessity of an open avowal. He postpones his confession, for it is a long and weary account and he shrinks from relating it. At last we came to the supreme moment—

"God save thee, ancient Mariner!
From the fiends that plague thee thus!—
Why look'st thou so?"—

A brief question and a broken line put an end to his meandering movement.

—"With my cross-bow
I shot the Albatross". (79-82)

There is the sudden termination of this part of the story. We are drawn to his sudden and blunt confession; and the statement of Caludius becomes significant in this context. His conscience draws him to and fro, for the Albatross appeared to him 'as if it had been a Christian soul'. It replaced the cross round the Mariner's neck, and thus did it become a profound symbol of guilt and sorrow. The murderous will of man strangled a divine purpose in this 'hellish' crime corresponding to the fall.

After the players-scene, the King retires to pray. He knows well that his offence is rank and that it smells to heaven:

"It hath the primal eldest curse upon 't—
A brother's murder!—Pray can I not,
Though inclination be as sharp as will:
My stronger guilt defeats my strong intent."
(3.3. 37-40)

The reflective intellect has set a deep mental agony in motion. The first major consequence of this act is the awareness of an evil that has emerged all round, and the recognition of one's inability to pray. Thus writes Coleridge:

"I looked to heaven, and tried to pray;
But or ever a prayer had gusht,
A wicked whisper came, and made
My heart as dry as dust," (244-7).

It is the dark night of the soul and the Mariner had to endure the knowledge of Death 'alone on a wide wide sea.' He could pray only when he was able to expiate his crime. He began by despising the so many thousand slimy things of the sea. The instinctive attachments and affections have given way to the agonies set in motion by the intellect. The first major consequence of this act is the emerging of evil in the forms of the deep that is rotting, the 'slimy things' that crawl on the deep, the 'death-fires', and the 'witches oils.' He could not pray. There is something of Cain, of Claudius, in him.

In the beginning of the play Hamlet explains to Horatio his inability to bear any longer the folly of the marriage tables being filled with 'the funeral baked meats' ; and then he says:

"Would I had met my dearest foe in heaven
Ere I had ever seen that day, Horatio!" (1.2. 183-4)

This is almost the Sophoclean wish. It is better not to have been born. But the fates willed otherwise. In the same strain does the Mariner say :

"An orphan's curse would drag to hell
A spirit from on high ;
But oh ! more horrible than that
Is the curse in a dead man's eye !
Seven days, seven nights, I saw that curse,
And yet I could not die." (257-262)

Despising the creatures of the calm, he envies at the continued existence of the slimy things while so many beautiful men lie dead. The curse lives for him in the dead man's eye. In his loneliness and fixedness he pines for the journeying moon, and for the stars that sojourn and yet move. But he must needs live and pine like a forbidden man, like the wandering Ishmael, in accordance with the prophetic utterance of the weird sister ; and then he is a totally changed being. At the reunion of all friends, for instance, Gonzalo observes :

"Whether this be
Or be not, I'll not swear." (5.1.123)

This remark is eminently true of the Mariner ; and the Wedding-Guest has been frequently at pains to understand the nature and being of this ancient Man. He does not seem to be a human being, nor does he appear to be anyone else.

"I fear thee, ancient Mariner!
I fear thy skinny hand !......
I fear thee and thy glittering eye
And thy skinny hand, so brown" (224-229)

The atmosphere of the poem accounts for the fearful fascination evoked by the Mariner. The Mariner wonders like a ghost bearing the burden of a message which becomes more and more explicit at every moment of agony, and yet

"I fear thee, ancient Mariner!" (345)

Still the Mariner's powerful appeal breathes the spirit of supreme tenderness and pathos. The 'dream would not pass away', for 'it seems to live upon the eye' demanding strong music and saintly song. But the human conviviality is denied to the Wedding-Guest who is unwilling to listen to the tale and who is yet unable to cast off the 'grey-beard loon.' The story is received into this emotional frame work. It narrates the story of an albatross killed by a Mariner; and Lowes holds to the triviality of the act. But this act is momentous in the life of the Mariner; and it is something deeper and more human than a mere supernatural trick that is played on us. A discerning reader like Lamb wrote to Wordsworth: "for me, I was never so affected with any human tale. After first reading it, I was totally possessed with it for many days—I dislike all the miraculous part of it, but the feelings of the man under the operation of such scenery dragged me along like Tom Piper's magic whistle." The individual that commits the crime carries a self-imposed punishment and he must accept both God and God's universe. But he falls back now and then, for the anguish returns to him as often as he can look into his own soul. It is only the penance of his life that brings him comfort. He must narrate his tale to others to feel relieved of a great psycho-physical tension.

In the mind of Coleridge, the figure of the Mariner merged with that of Cain, that of the wandering Jew, and that of Hamlet. Coleridge told us that he had a smack of Hamlet himself.[1] The Mariner belongs to this illustrious dynasty and inherits those 'elemental questionings and intuitions.' He has committed a crime that has upset the foundations of his life and transformed the nature of his soul. Cain sinned against human relationship; the Wandering Jew rejected the God in man; the Mariner violated the sanctity of a guest; and the poet was not exempted from a moral and spiritual convulsion at the time. Macbeth sinned against the sanctity of a guest. And the sense of guilt compels the Mariner to narrate his story to others, so that he might have a feeling of profound relief. We know too well that Hamlet charges Horatio with the narration of his story:

"O Good Horatio, what a wounded name,
Things standing thus unknown, shall live behind me!
If thou didst ever hold me in thy heart,

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[1] Passages from the Prose and Table Talk of Coleridge, Ed. by W. H. Dircks, p. 202.

Absent thee from felicity awhile,
And in this harsh world draw thy breath in pain
To tell my story."

So does the Mariner roam about like Horatio, like a ghost resurrected, bearing the burden of a heavy tale; and the heaviness becomes explicit at every moment of agony. He must explain himself.

"I pass like night, from land to land;
I have strange power of speech;
That moment that his face I see,
I know the man that must hear me:
To him my tale I teach" (586-590).

This stanza is symbolic of Coleridge's own yearning to fly away from the loneliness of an agitated mind, of a mind fast developing an abnormality. The Mariner and Horatio seek relief throughout their lives in endless monologues; only the monologue of Horatio is present in the mind of every sympathetic reader of the tragedy of Hamlet.

9. The images of the stagnant calm and of the effortless movement of the ship are symbolic of the poet's own spiritual experience. They reveal that consciousness of inaction which the poet saw in himself and in Hamlet, and which really smothered is powers of artistic creation. Coleridge himself told us: "In looking at the objects of Nature, I seem rather to be seeking, as it were *asking* for, a symbolical language for something within me that already and for ever exists, than observing anything new" (Anima Poetae, p. 136). At times he felt "forsaken by all the *forms* and *colourings* of existence, as if the *organs* of life had been dried up; as if only simple Being remained, blind and stagnant". At times he longed for the swelling gust, and 'slant night-shower driving loud and fast'. It is from statements like these that we gather that the image of the ship driving before the wind symbolises the happy submission to the creative impulse. And we should also remember that referring to Wordsworth who was then composing 'The Prelude', Coleridge remarked: "Now he sails right onward, it is all open ocean and a steady breeze, and he drives before it" (Anima Poetae, p. 30). It is in this light that we have to interpret 'The Rime of the Ancient Mariner' as embodying the spiritual struggle of Coleridge, the creative artist. And Leslie Stephen has long ago observed: "The germ of all Coleridge's utterances may be found—by a little ingenuity—in the Ancient Mariner....Part of the secret (of the strange charm of the poem) is the ease with which Coleridge moves in a world of which the machinery—as the old critics

called it—supplied by the mistic philosopher" (Hours in a Library IV).

The guilt of Macbeth, the inexplicable and mysterious suffering of Hamlet, and the purgation of Lear are the various stages through which the poem moves; and these are the stages through which the spiritual experiences of the poet have been chastened and subdued. As Gingerich observes: "In this poem Coleridge has given, in a rarefied etherealised form, the exhalations and aroma of his personal experience of Necessity and Unity, the blossom and fragrancy of all his earlier religious meditations". Shakespeare's tragic period has been an essential element in this spiritual convulsion, and Coleridge has been able to comprehend the suffering of the great criminals like Cain, the wandering Jew and Macbeth, precisely through his own experiences. And out of this spiritual waste he has come to realize the meaning of prayer as human love to 'all things both great and small'. So he writes to Lamb: "It is a sore evil to be and not in God but it is a still more dreadful evil and misery to will to be other than God". In spite of all this evidence, Lowes tells us how the images about the slimy things of the sea crept into the 'Ancient Mariner' even when Coleridge had not been to the sea. These images are traced to the books on voyages the poet was reading. But to take a prominent example, in his 'Destiny of Nations'; Coleridge compared the 'glad noise' of Love's wings fluttering to the fresh breeze breaking up the "long and pestful calms,

> With slimy shapes and miscreated life
> Poisoning the vast Pacific" (279)

Coleridge's imagination was constantly seeking an expressive form for something within; and we therefore read in the latter poem,

> "Yea, slimy things did crawl with legs
> Upon the slimy sea" (125-6). etc.

Passages like these are the significant embodiments of deep and vital urges within the poet's own soul. They are the urges clamouring for an outlet. They are not gathered from books on voyages, but are the products of deeply felt experiences. They have taken a definite form in his constructive imagination; and the shaping spirit reveals it in diverse ways. Another example will strengthen this contention. It refers to the alleged moral of the Ancient Mariner. Now in his "Religious Musings," composed earlier, we have these beautiful lines :

"There is one Mind, one omnipresent Mind
Omnific. His most holy name is Love.
Truth of subliming import! With the which,
Who feeds and saturates his constant soul,
He from his small particular orbit flies
With blest outstarting! From himself he flies,
Stands in the sun, and with no partial gaze
Views all creation; and he loves it all,
And blesses it, and call it very good!
This is indeed to dwell with the Most High!
Cherubs and rapture—trembling seraphim
Can press no nearer to the Almighty's throne".
(105-116)

It is a new doctrine of Love, a doctrine rendered into spiritual terms in and through a satisfying imaginative experience. This doctrine has been a cardinal one in the poet's faith; and it frequently appears in almost all his major critical and creative works. The origins of this passage are to be sought in the Book of Job. Job answers:

> " But ask now the beasts, and they shall teach thee; and the fowls of the air, and they shall tell thee:
>
> " Or speak to the earth, and it shall teach thee; and the fishes of the sea shall declare unto thee.
>
> " Who knoweth not in all these that the hand of the Lord hath wrought this?
>
> " In whose hand *is* the soul of every living thing, and the breath of all mankind." (12. 7-10)

This is a doctrine that is at the basis of the Ancient Mariner. The framework of the poem is provided by the mysterious utterances of the weird sisters. It is supplemented by the tragic experiences of Macbeth and Hamlet. These two characters faithfully portrayed to him his own spiritual convulsion; and this convulsion was further strengthened by the redemption of Lear and by the assimilation of the experiences of Job and of Dante to his own conscious self. Thus we get the lines:

" He prayeth best, who loveth best
All things both great and small;
For the dear God who loveth us,
He made and loveth all". (614-7)

From the very beginning do we find the development of this doctrine of love; and the poem presents us with the problem of humanising an exclusive personality. The Mariner and the poet take us by surprise at the beginning and we are unwillingly bound to listen since they strike us as unfamiliar personalities. But as we proceed we begin understanding them better and better, for they reveal their humanity. It is this transmutation of an ego-centric sinner into a concrete human being full of the primal feelings and affections, that the imagination has succeeded in presenting. All that the poet read or heard no longer stands aloof ; it is an integral part of the poetic experience called the 'Rime of the Ancient Mariner'. And then it has acquired a new character. It is one with the content of the poet's conscious self; and it is given an enduring form by the poetic imagination. This impression is further strengthened by a consideration of the great struggle between two forces :

> " The Nightmare Life-In-Death was she,
> Who thicks man's blood with cold " (193-4)

A struggle between life and death is visualised in terms of their close and intimate union. The two interchange their places. The pangs of death are to give birth to a new and joyful wisdom hereafter. Compare the poet's Epitaph for himself, composed in 1833.

> " Stop, Christian passer by! . . .
> O, lift one thought in prayer for S.T.C.;
> That he who many a year with toil of breath
> Found death in life, may here find life in death !"

The conflict to which the Mariner was subjected, is in fact the struggle of the poet himself. Into this struggle was assimilated the Shakespearean tragic fact in all its universality and richness. That this is not alien to Coleridge's poetic experience, that this is not a mere borrowing from what the poet has read, that this is an integral part of the poet's spiritual suffering, can be established by a consideration of the poems composed subsequent to the Rime of the Ancient Mariner.

10. We have referred to Leslie Stephen's observation that " the germ of all Coleridge's utterances may be found—by a little ingenuity —in the Ancient Mariner." We have seen the essential conflict between Life and Death presented in The Ancient Mariner, coming alive in all its freshness, thirty-six years after, in the Epitaph referred to. Take a second instance. By the light of the Moon the Mariner beholds God's creatures of the calm. His spiritual convulsion takes him slowly to the acceptance of God and of God's universe. Then we have the significant lines:

"O happy living things! no tongue
Their beauty might declare:
A spring of love gushed from my heart,
And I blessed them unaware:
Sure my kind saint took pity on me,
And I blessed them unaware." (282-287)

Five years later the same thought appears in 'Dejection':

"Ah! from the soul itself must issue forth
A light, a glory, a fair luminous cloud
Enveloping the Earth—
And from the soul itself must there be sent
A sweet and potent voice, of its own birth,
Of all sweet sounds the life and element."
(53-58)

It is such a spontaneous experience that emanated from the Mariner's soul leading to his regeneration. Later we hear of the agony returning to the Mariner frequently and constraining him to travel from land to land:

"I have strange power of speech;
That moment that his face I see,
I know the man that must hear me:
To him my tale I teach." (587-590)

We are almost reminded of the lines

"In the touch of this bosom there worketh
a spell,
Which is lord of thy utterance". (Christabel
(1. 267-268)

These lines are composed during the same year. Observe also the following lines spoken by the Bard Bracy, written three years later:

"But though my slumber was gone by,
This dream it would not pass away—
It seems to live upon my eye!
And then I vowed this self-same day
With music strong and saintly song
To wander through the forest bare,
Lest aught unholy loiter there" (2.557-563)

We have the same atmosphere that hovers round the Mariner's resolve. The mysterious incident continues to haunt him and he cannot run away from it. There is something uncanny, yet bewitching, in the whole situation.

Passages like these are frequent in the later writings of Coleridge; and they convey some of the leading thoughts and images that are in the Ancient Mariner. They all go to imply the depth of the experience that was at the back of this poem. It is this depth that makes the poem an epitome of all his poetic career. In a way we can accept the truth contained in the statement of Pater: "What shapes itself for criticism in Coleridge's poetic life is not, as with most true poets, the gradual development of a poetic gift, determined, enriched, retarded, by the actual circumstances of the poet's life, but the sudden blossoming, through one short season, of such a gift, already perfect in its kind, which thereafter deteriorates as suddenly, with something like premature old age" (Appreciations, p. 87). However, this statement is an exaggeration of a vital truth. At the back of the Ancient Mariner we have the quintessence of the influence of old and the New Testaments, of Dante, of the Christian mystics and of Shakespeare. Thus the rising of the wind in the poems is the quickening of the human spirit and it reminds us of Ezekiel: "Come from the four winds, O breath, and breathe upon these slain, that they may live". The physical wind, the human breath and the power of the Divine spirit merge into a single concrete image. In St. John's Gospel too we hear of the new birth by the spirit that bloweth where it listeth; and in the Acts we find that a sound from Heaven came like a rushing mighty wind when the Holy spirit descended. These rich associations are synthesised into a single living image of the rising of the wind in the poem of Coleridge. And it is the felt experience of the poet that welds them into a unity. In this connection we have a significant utterance of the poet himself. "I think nothing can be added to Milton's definition or rule of poetry,—that it ought to be simple, sensuous, and impassioned; that is to say, single in conception, abounding in sensible images, and informing them all with the spirit of the mind". (Table Talk, etc., p. 200). And in the same Table Talk, we find him referring to the Ancient Mariner as "a work of pure imagination" (p. 211). Such a work is bound to convey to us the spirit of Coleridge's mind in and through a variety of inter-related images. These images are modified by a predominant passion which awakens new thoughts and feelings from the inmost recesses of the soul; and this passion is thus able, in the words of Coleridge, to "reduce multitude to unity, or succession to an instant." It is the latter that dominates the Ancient Mariner.

Time is *the* factor to be reckoned with ; and Coleridge is intensely aware of his success here. So he says : "I have the perception of individual images very strong, but a dim one of the relation of place. I remember the man or the tree, but where I saw them I mostly forget" (*Ibid*, p. 201).

11. There is a perpetual movement in the poem. The ship is to move perpetually, for the equilibrium can be attained only by movement and not by any fixity. The sun ; moon and stars are all moving. The day is frequently seen to run headlong into night, for in one of the marginal notes we read that there is "no twilight in the Courts of the Sun". We find the wind blowing and the ship flying along. The dead too cannot rest ; they rise and start, they move about. There is a general fright at the very thought of fixity, at being becalmed :

> "Day after day, day after day,
> We stuck, nor breath nor motion ;
> As idle as a painted ship
> Upon a painted ocean." (115-8)

When the physical inaction was forced upon the crew, there is horror. Any form of immobility brings forth and sustains a tension, a deep agony which is both physical and psychical. The Marincr had therefore to wander from place to place to find out some one who can give his ear to the tale of woe.

There is a rain in the poem just at the moment of the relaxation of the inner tension brought forth by love and prayer. This mood is closely intertwined with sleep and dream. Thus we hear of St. Augustine's long anxiety and suspense followed by his conversion ; and when reflection had "gathered up and heaped together all my misery in the sight of my heart, a mighty storm arose, bringing a mighty shower of tears". There is a general shrinking immediately preceding the change over. Every object begins to evoke horror or disgust, and the eyelids close till the balls like pulses beat. There is a spell that paralyses all movement ; and this is gradually dissolved and evaporated as admiration and love creep into the Mariner's despair. There is a general reawakening of the spirit. The despair has been the state of the journey through the night in the primevel waters of darkness. The second chapter of the Book of Jonah tells us : "The waters compressed me about, even to the soul : the depth closed me round about, the weeds were wrapped about my head. I went down to the bottoms of the mountain : the earth with her bars was about me for ever: Yet hast though brought up my life from corruption, O Lord my God." There is a descent imaged as corruption; and this is the motionlessness of the Mariner. The earth with her bars is replaced by the breathless calm. And a worse horror arises from the immobile tongue:

"And every tongue, through utter drought,
Was withered at the root;
We could not speak, no more than if
We had been choked with soot" (135-8)

As the sign in the element afar off approaches nearer and nearer,

"With throats unslaked, with black lips baked,
We could not laught nor wail;
Through utter draught all dumb we stood!" (157-9)

He wanted to break this immobility. But he could do so only by out-doing Faustus:

"I bit my arm, I sucked the blood,
And cried, A sail! a sail!" (160-161)

It is in the light of this dread of immobility that we should read the lines:

"But oh! more horrible than that
Is the curse in a dead man's eye!" (259-260)

A windless sea is glowing red in the night;

"But where the ship's huge shadow lay,
The charmed water burnt alway
A still and awful red." (269-271)

It is 'a still and awful red.' The preceding lines refer to the white moonlight. The redness of the burning water is charged with the meaning invested to it by Dante, whose work, says Lowes, is well known to Coleridge: In the Inferno we have these lines:

"Now, O my son,
the city named of Dis is nigh at hand,
With heavy citizens, great garrison".
And I: "Already in the valley stand
its mosques, O Master, and to me they show
Vermilion, as if issuing from the *Brand*."
And he made answer: "The *eternal glow*
of inward flame kindles the *ruddy glare*,
as thou perceivest in this Hell below" (8. 67-75).

'Vermilion', 'brand', 'eternal glow', and 'ruddy glare' are the words implying that the simple word 'red' has a soul of terror. Its soul lies in hell. This is the meaning of the word 'red' in the line 'a still and awful red', as the context and the marginal note reveal. Stillness qualifies the red ; and the immobility is almost something like the perpetual damnation. There is awareness of pain and guilt. The Mariner sinks into a state of quiescence and this condition calls forth for an effort. There is a tension followed by a moment of another quiescence which is blissful. This is sleep providing for a renewed energy ; and the first relaxation comes in the yearning towards the moon and stars. The moon is imaged as a Goddess, as the Queen, as the Mother. The Mariner then has a rebirth during the moonlit night. This rebirth is realized in the apprehension of the beauty and glory of life, and in the values of life.

12. Let us recall the universe presented in the poem. It is a universe where time is everything. Into this flux

> "The naked hulk alongside came,
> And the twain were casting dice". (195-6)

The Mariner's ship is domineering enough, though it had the solitary wrestling with the universe ; and the sense of loneliness is keenly felt everywhere. Everything is in flux, and yet there is loneliness.

> "Alone, alone, all, all alone,
> Alone on a wide wide sea !
> And never a saint took pity on
> My soul in agony". (232-5)
> "For the sky and the sea, and the sea and the sky
> Lay like a load on my weary eye,
> And the dead were at my feet" (250-2)

This universe is not only Heracleitean, but Pythagorean. Number is introduced into it frequently. There were in all only "Four times fifty living men" (216). The Mariner 'saw that curse' for 'seven days, seven nights' (281). A Spirit followed them 'Nine fathom deep' (133). Time and space are numerically divided. There is an 'April hoar-frost' (268) besides 'the leafy month of June' (370). Besides the crew we have the hermit, the pilot and the pilot's boy. There are also animals and birds and reptiles. We hear of a horse, a wolf, the skylark, the owlet, the water-snakes and the Albatross. There are variegated colours. The ice comes floating by 'as green as emerald' (54) ; 'the white Moonshine' glimmers 'through fog-smoke white' (77-8) ; 'the water, like a witch's oils, burnt green, and blue and white' (129-130). Green, blue and white are the colours that are found so far with a weired significance. 'The Nightmare Life-In-Death' is also coloured :

> "*Her* lips were red, *her* looks were free,
> Her looks were yellow as gold :
> Her skin was as white as leprosy". (190 2)

Red, yellow, and white are associated with this strange apparition. We have already seen that 'red' has a soul in hell ; and we may also note that the bride 'paced into the hall' and that she was 'red as a rose' (34). Hamlet's Ophelia, we may remember is the 'rose of May' ; and hence the Wedding Guest 'cannot choose but hear'. He must needs be saved from the very soul of hell captured for us in the image of red. Coming from that very hell, the Mariner had a 'skinny hand, so brown' (229) ; and the water-snakes are 'blue, glossy green, and velvet black' (279), and 'they moved in tracks of shining white' (274).

The darkness of the stars and the foaming of spray are familiar phenomena here :

> "The Sun's rim dips ; the stars rush out :
> At one stride comes the dark." (199-200)

Again,

"The stars were dim, and thick the night" (206). And even the Mariner himself passes 'like night, from land to land' almost like a spirit. We have Spirit, corpses and a maniac here. At the end someone 'doth crazy go'. There is a crew with 'limbs like lifeless tools', a 'spectre-bark' and the dice. There is sunlight :

> "The sun now rose upon the right :
> Out of the sea came he,
> Still hid in the mist, and on the left
> Went down into the sea' (83-6).

The flight of the sun is so quick and sudden. Earlier we read a similar passage :

> "The sun came up upon the left,
> Out of the sea came he !
> And he shone bright, and on the right
> Went down into the sea" (25-8).

Brightness has slowly given way to the mist. When the fog cleared off,

"Nor dim nor red, like God's own head,
The glorious Sun uprist" (97-8.)

Dimness and redness have momentarily gone into the background before the final convulsion has commenced. But when the spectre-bark came without wind or tide, horror follows :

"The Western wave was all a-flame
The day was well nigh done !
Almost upon the western wave
Rested the broad bright Sun ;
When that strange shape drove suddenly
Betwixt us and the Sun
And straight the Sun was flecked with bars,
(Heaven's Mother send us grace !)
As if through a dungeon-grate he peered
With broad and burning face." (171-180)

The world gets contracted as the skeleton of a ship becomes visible. The Sun had to retire unnaturally at the intrusion of the strange shape. The poetic genius is focussed on these images whence arises the full splendour of the 'broad and burning face' in the midst of a despairing agony. The beauty of the landscape revealed here is the very rhythm of the soul's movements rendered objective. But there is something at the very core of existence disturbing the spiritual harmony of life. When the ship was suddenly becalmed, the bloody Sun, at noon 'in a hot and copper sky', appeared to be 'no bigger than the Moon' (114). There is a reduction in the magnitude of the sun, a reduction bordering on the ludicrous. The littleness, the forlornness, of the Mariner finds its objective counterpart. We also know that the Moon appears frequently 'with one bright star within the nether tip'. (210-1). And yet the transformation of the Mariner's self is heralded by the lovely lines :

"The moving Moon went up the sky,
And no where did abide :
Softly she was going up,
And a star or two beside—" (263-6)

The white moonlight is a contrast to the red shadow haunting the world of the Mariner. The anguish of repulsion is replaced here by the yearning for the journeying Moon and for the stars that sojourn and yet move. The yearning is for a movement that can put an end to the static universe wherein every thing is rotten; and like Hamlet, the Mariner realises this rottenness which he was born to set aright.

The anguish and the restlessness of a static existence slowly giving way to a welcome change. The Mariner is refreshed with rain which

"poured down from the one black cloud ;
The Moon was at its edge.
The thick black cloud was cleft, and still
The Moon was at its side :
Like waters shot from some high crag,
The lightning fell with never a jag,
A river steep and wide." (320-6)

The curse that befell the Mariner has not failed to overtake Nature, when there appeared the stagnant calm and the draught. This curse was broken as the Mariner began developing Love within himself ; for the whole universe seems to have come alive in him. The outer sense impression is intended to divert our attention to the inly felt process which is more important. The storm too, like everything else, has a life of its own. And the Albatross, we remember, originally flew round and round the ship ; and in the end it

"fell off, and sank.
Like lead into the sea." (290-1)

The curse unloosens its hold at a moment when the Mariner becomes conscious of an instinctive and innate pantheistic urge to reunion with the universe around. Their arises then a spontaneous forgiveness wrought by prayer which speaks the language of love. The storm too has been set free by prayer which transforms and purifies the inner life. This prayer is enlivened by that shaping spirit of imagination which comprehends the real meaning of the universe in a single act of experience. The passage from the actual to the real is carried out in terms of the imaginative act of a self-conscious mind.

13. Coleridge modestly refers to these images as "the shadows of imagination" and speaks of the "willing suspension of disbelief" as the essence of the poetic faith. We began this paper with this statement and we have now to consider whether this is an adequate account, in the light of what we have discovered in the poem. Poetry, says Richards, consists, of emotive utterances. An emotive utterance is directed to the attitudes and emotions, and to the satisfying organization and inter connection of these attitudes (Principles, 267-8). But, the poetic utterance involves an intellectual belief rendered emotively in and through the principle known as 'psychical distance'. We accept what the poet says merely because of its place and significance in that system of references called the real world. The poetic

experience of the Ancient Mariner leaves us with an enduring belief in the validity of the experience as such. In this experience we do discover a greater degree of unity between the individual and his universe, a deeper harmony within the self ; and our belief in a more comprehensive and more consistent truth awakened and intensified. The apprehension of this awakening and intensification of our faith is made possible in and through the stream of consciousness which has a dynamic rhythm of its own. This stream is often integrated to the subliminal self which transforms the particular facts or events into universal ones. Something akin to this is offered in the poem as such. Coleridge, we know, provides us with a narrator and a marginal commentary for a tale that is told to the Wedding-Guest who was upset by it all. This external equipment is the translation of a conscious act that compels belief in virtue of its universality. Coleridge himself speaks of such a compelling faith in the objectivity and universality of the poetic experience, as "that negative faith, which simply permits the images presented to work by their own force" (Bl. Ch. 22 ; *cf.* also Ch. 23). Such images emanate from the self-conscious act of the creative artist, and are harmonised in the concrete form of a single poem called the Ancient Mariner. We cannot, then, disbelieve in the world revealed by the creative imagination. It is a world having a greater degree of reality than the ordinary world of men. It is this fact that compels us to attach importance to the dynamics of the rhythm contained in the Ancient Mariner, a poem that seems to sum up into itself the Old and the New Testaments, Dante, Marlowe, and Shakespeare. Above all, it is the tragic spirit of Shakespeare that seems to be at the very basis of this great poem.

INTERNATIONAL AID FOR PROJECTS

SHRI K. C. KHATRI*

Multipurpose integrated river valley planning is comparatively new to India as it is for all countries. For carrying out the necessary investigations, drawing up plans for projects and their execution, technical personnel specially trained in each type of work are required. As some of the countries in the world have gained considerably more experience in the planning and technique of execution of multipurpose projects, it would be helpful to India to draw on such experience and improve the speed and economy of project development. Technically advanced countries like the U.S.A., United Kingdom, Canada, West Germany and others have generously offered to assist us in the development of our water and power resources, and the assistance being given by them has been playing a significant rôle in the Plan programmes of India. Foreign assistance received in the shape of technical personnel drafted to India, training for our engineers abroad, materials and equipments for projects research in foreign laboratories, are broadly outlined in this article.

U. S. ASSISTANCE

Assistance from the United States of America is by far the largest foreign aid for river valley development in the country. This is being channelled through an agreement signed between India and the United States on January 5, 1952. Under this Agreement two kinds of assistance is being received namely, (*i*) assistance in the United States, and (*ii*) assistance in India.

The Government of the United States of America has undertaken to make available at the office, laboratories and other installations of the United States Bureau of Reclamation, the services of personnel, equipment and facilities of the Bureau as may be necessary to render such scientific and technical service and advice required by the Government of India. The cost of such service is to be borne by the U. S. Government, which has set apart a sum of $ 100,000 for the purpose. Under the Agreement, a number of technical problems relating to Hirakud, Koyna, Rihand and other projects have been referred to the Bureau of Reclamation. Similarly the Bureau has also supplied a number of technical publications for use by various departments in India.

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Three kinds of assistance is being offered in India by the United States Government.

(i) Services of American technicians.
(ii) Training facilities for Indian engineers in the States.
(iii) Supply of equipment for the various projects under execution in India.

The U. S. Government has made available the services of 32 technical experts during the First Five Year Plan. Of these 10 were attached to the Damodar Valley Corporation, two to the Hirakud Project and the rest were assigned to the Central Water and Power Commission.

The United States made available training facilities for 17 engineers from India. Seven of these were from C. W. & P. C., three each from Hirakud and DVC Projects, and the rest from State Governments.

The United States also made available considerable quantity of equipment such as heavy earthmoving machinery like scrappers, dumpers, tractors, etc., and construction equipment like stone crushers, concrete batching and conveying plants, etc., with spare parts for various river valley projects in India.

PROJECT EQUIPMENT FROM U.S.A. FOR FIRST PLAN PROJECTS

Project.	Estimated Project cost (in crores of rupees).	Cost of Equipment made available (dollars).
Hirakud Dam	70.78	3 323,482.00
Kakrapar Weir and Canals (Bombay)	11 65	23,615.15
Mahi (Bombay)	14.00	658,840.00
Ghataprabha (Bombay)	5.45	207,643.00
Tunga Anicut (Mysore)	2.31	15,910.00
Gangapur (Bombay)	3.34	215,640.00
Saurashtra Irrigation Scheme (Bombay)	0.94	89,650.00
Chambal Project (Madhya Pradesh)	48 03	2,266,116.00
Pathri Project (Uttar Pradesh)	2.58	19,232.00

AID FOR FLOOD CONTROL

The Government of the United States is also assisting the Government of India in controlling the flood menace in this country by making available services of experts and equipment to the extent of $ 202,000. The epuipment includes fully-equipped motor launches, rain and river gauges that can report rainfall and river-flow by unattended radio and devices to measure the speed of water-flow.

RIHAND DAM PROJECT

In addition to the above projects, the Government of the United States has agreed to assist in the execution of the Rihand Project to the extent of $ 6,413,017 and Rs. 7 crores. The dollar component is intended mostly for procuring construction equipment and also a team of construction technicians to be deputed by the U.S. Bureau of Reclamation. The rupee component is to assist in paying for general construction costs. The total cost of the Rihand Project is estimated at Rs. 48 crores.

TRAINING CENTRES

Similarly the Government of the United States has helped in setting up two technical training centres for operation and maintenance of heavy earth-moving equipment, one at Kotah and the other at Nagarjunasagar dam site. Most of the equipment for these training centres and service of expert operators and mechanics are being supplied by the United States. Each of the centres is training 40 operators and mechanics every year.

In addition, two more training centres for " Hot line maintenance of transmission and distribution system " are being set up, one at Bangalore and the other at Nangal with the assistance of the United States. These are expected to start functioning shortly.

AID FROM COLOMBO PLAN

The Colombo Plan is a co-operative effort and mutual assistance programme of countries comprising the Commonwealth of Nations, Japan, Burma and Thailand. Under this scheme, Canada, Australia and U.K. are affording assistance to this country in the execution of projects. Out of these countries, Canada has given by far the biggest contribution.

CANADA

In the first two years of India's First Five Year Plan, Canadian assistance was mainly in the shape of commodities. An amount of $ 15 million (Canadian) was allocated for the supply of wheat and the rupee proceeds realised therefrom were allocated by agreement for expenditure on the Mayurakshi Project in West Bengal. In addition, the Canadian Government has also assisted the project by supplying electrical equipment, costing $ 3 million (Canadian). The Mayurakshi Dam has been re-named the Canada Dam as a token of appreciation of Canada's gesture.

Similarly Canada also offered capital assistance for the Umtru Hydro-electric Project in Assam. Electrical equipment, costing $ 1.2 million (Canadian) has been supplied. The construction cost of the project is being met from the rupee proceeds of the sale of raw materials offered to the cable and wire industry for which that country had made an allocation of $ 5 million (Canadian) in 1952-53.

The Government of Canada has also made available training facilities for Indian engineers in that country. Two officers from the Central Water and Power Commission have since availed of these facilities.

AUSTRALIA

The Government of Australia authorised an amount of Rs. 372 lakhs for the supply of wheat and flour for sale in India. The sale proceeds of the food material have been utilised to meet the rupee costs of the Tungabhadra Project. Similarly that Government made an allocation of Rs. 160 lakhs for the supply of construction equipment for this project and power transmission line material for the Ramagundam Power Project in Andhra.

The Australian Government also made available training facilities for two Indian engineers in that country.

UNITED KINGDOM

Assistance from the United Kingdom has been mainly in the form of expert personnel deputed to India, training facilities for Indian engineers in the U.K. and supply of certain types of research equipment. Three experts were assigned to the Hirakud Project and two were assigned to Central Water & Power Commission under this programme.

The Government of the United Kingdom made available training facilities for seven officers of the Central Water and Power Commission and supplied equipment worth about Rs. 45,000 for the Hydraulic Machinery Laboratory of the Central Water & Power Research Station, Poona.

UNITED NATIONS

The United Nations and its specialised agencies have given technical assistance to this country. The foremost among these is the UNESCO. Under the terms of an agreement between India and the UNESCO, two specific projects, namely "Ship-Testing Techniques" and "Photo-elastic Studies" for determining the adequacy of designs for dam projects have been started in India. The Organisation made available the services of four foreign experts, three for ship model testing and one for photo-elastic studies for these schemes. Special equipment, costing about Rs 1,50,000 for the ship-testing tank set up at the C.W. & P. Research Station, Poona and photo-elastic equipment, costing Rs. 80,000, for the photo-elastic laboratory in the C.W. & P.C. at Delhi, were supplied by the UNESCO.

In the same programme, training facilities for four officers of C.W. & P.C. in laboratories in France, Switzerland, U.K. and Sweden, etc., were made available. The United Nations Technical Assistance Administration, a sister organisation of the UNESCO, also arranged training facilities for eight officers of the C.W. & P.C. in various countries.

WEST GERMANY

The Government of the Federal Republic of Germany have offered, through West German firms, training facilities to the Government of India. Under this programme two officers from the Central Water and Power Commission were sent to West Germany for specialised training.

INTERNATIONAL CO-OPERATION

India is thus a great beneficiary of assistance generously extended in several ways by countries which are more technically and economically forward. Although it is correct to say that India's river valley projects could and would go on with her own resources, and that the pecuniary aid received from abroad, relative to the enormous investment required for them, is small, it is equally true that the imported knowledge of modern techniques is assisting project progress in India to a considerable degree. The helping hand of international co-operation contributes to the material advancement of the assisted nation, strengthening it to extend, in its turn, similar co-operation to others in need, all of which together build the great cause of world brotherhood, of which we can never have too much.

THE MARCH OF LIFE THROUGH ASSOCIATIONS

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Nothing can be more wonderful than the rise of multicellular animals terminating in man from minutely low unicellular organisms. The dynamic synthesis which is responsible for the gradual and continuous development in this line is an expression of the urge of co-ordination of life. It is this inherent capacity to co-ordinate that has given life its unique power to move on endlessly by creating new conditions of mind and body. By co-ordination is meant an intimate association with, or an addition of, something new so naturally adjusted to the whole as to become serviceable to it. The primitive tendency to form aggregations of various kinds, which ultimately lead to the fusion of cells to produce compound bodies, the inclination to effect gradual developments of parts, organs, limbs and somatic conditions of organisms and the propensity of life to achieve progress and perfection in diverse fields are all the manifestations of this basic urge of co-ordination. Even the purposiveness of life, which is now considered as the most fundamental characteristic of life [1] owes its origin to this vital urge. Purposiveness, in fact, is a term that indicates the attitude of life formed due to the constant working of this urge.

Ancestors of all living organisms were either cellular like protozoa or sub-cellular having no definite nucleus like bacteria, spirochaetes and viruses. But life, even at the earliest stage, was in the possession of its most fundamental characteristic. It was autonomous because of its capacity to co-ordinate. And it was this power lurking in life that rose to effect all the changes that have appeared in the world of the living. With the differences in feeding habits appeared the two main groups of life. One group learnt to utilize the energy of the sun with the aid of its chlorophyll and came to be known as the simplest green plants ; and the other by taking advantage of the presence of the first group derived its necessities by eating up plants containing food manufactured in their bodies. This second group started the line of animals. Primitive life passed into a variety of forms ; it assumed the bodies of algae, amoebae, flagellates and so on.

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[1] H S. Jennings : *Behaviour of Lower Organisms.*

The march of life through the stages of development is a wonderful affair which we understand to some extent because of the testimony of fossils. But fossils belonging to ages before the Cambrian are extremely rare. This is due to the fact that the somatic conditions of the living in those remote ages were unsuitable for the formation of fossils. We are forced, therefore, to form our ideas indirectly by depending upon the evidences of Embriology and Comparative Anatomy.

To say that life has a force or an elan is to say nothing ; it is a way of re-naming a phenomenon. Life, certainly, has a force ; but what is this force like? It is surely unlike the forces we know in the physical world. The correct statement would be : Life has a force which is unique. It is the dynamic power of life to co-ordinate in infinite ways, which induces it to become the possessor of this unique force.

It is certain that higher life sprang from unicellular organisms. But it is rather difficult to form a picture of the process of this passage ; and it is not less difficult to understand the nature of the pressure under which cells continue to combine with cells to form more and more complex bodies. But the concept of Vital Co-ordination makes our ideas and confusions concerning these extremely clear and comprehensible. It was the urge of co-ordination which drove unicellular organisms to come together to form colonies at first and to organize subsequently, aggregations of different degrees of consolidation. These aggregations gradually grew more and more compact with the appearance of division of labour and then they passed on to multicellular organisms which grew in complexity in gradual stages. Individuation grew out of aggregation. The urge which led to the formation of aggregations led also to the process of individuation. The presence of animal and plant cells in different grades of colonies and aggregations in Nature gives us an inkling as to how individual cells could gradually proceed to build up multicellular bodies of increasing complexity. Amongst many unicellular bodies in Nature there is a tendency to come together and form simple colonies ; the bonds that bind these individuals are generally loose. But there are bonds in some of these colonies that are strong enough for keeping individuals together permanently. In the protozoan colony of the animal Codosiga (a group of flagellates) the cells are joined together quite firmly but there is no division of labour amongst them.[2] In the protozoan colony of Zoothamnium, the first stage of the division of labour is palpably present.[3] Cells forming the body of the sponge are co-ordinated just to produce a form which lies in between the forms of Protozoa and Metazoa. It is reasonable, therefore, to consider the sponze as belonging to the group of Parazoa. The sponge is a loosely organized community of cells; it has no mouth and no common function of digestion for the whole animal. The development of the mouth with its primitive cavity seems to be the first advancement of Metazoa over Protozoa. In the case of the freshwater polyp Hydra although we find a greater degree of co-ordination of cells, the division of labour has not advanced far. There are muscles all over the body of the coelenterate but these muscles are extremely primitive in nature. The Phylum of coelenterata must be considered rather important from the point of view of the concept of co-ordination for it is here, at this stage of life, that we have the beginning of the nervous system.

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[2] J. B. S. Haldane and Julian Huxley : *Animal Biology*, p. 320 in Modern Scientific Thought. Book II.

When we come over to the world of plants we find the same process of co-ordination working in the same way for raising plant life to higher and higher stages of development. Higher plants arose from colonies of plant cells. Flagellates have generally a strong tendency to form colonies. Individuals of the marine flagellate Ceratium[4] sometimes remain temporarily connected in chains. But in Spirogyra[5] which is also a lowly plant, cells are co-ordinated to a permanent chain-like existence. And in Dendrosoma[6] individual cells are all connected by living tissues. As we go up gradually to higher plants we find not only a complete cementation of cells but also the effects of more and more co-ordinations. The green flagellate Volvox forms globular colonies containing many cells but the united group always swims in a co-ordinated way with a particular part of its body always remaining at the front.[7]

The simplest green plants we know today are found in algae. The most common varieties are sea-weeds and pond scums. Many of them are single cells while others contain chains of cells forming threads or filaments; and in some sea-weeds they are so firmly woven together that they assume the form of solid bodies.[8] From the conditions of their modes of origin, growth and development it seems quite natural to suggest that simplest green plants had arrived before animals came. These tiny sea-plants by co-ordinating their bodies and internal functions gradually in different ways, under different conditions have transformed themselves into all the species of the vegetable kingdom that we find today.

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[3] *Ibid.* p. 321.
[4] H. G. Wells, Julian Huxley and G. P. Wells : *The Science of Life*, p. 403.
[5] *Ibid.*
[6] *Ibid.*
[7] *Ibid.*, p. 404.
[8] *Ibid.*, pp. 173-74.

Somatic developments of organisms have generally taken place for the improvement of internal functions. To preserve the continuity of the individual and that of the species seems to be the two fundamental functions of life. The urge of co-ordination has helped life either to improve or to invent contrivances for the easy and smooth functioning of these operations of life. The intake of food, its absorbtion and its excretion were necessary for the continuity of life. Even one-celled organisms performed all these functions; but they performed them in crude and primitive ways We find for the first time, only at a particular stage of life—in the Hydra and the Sea-anemone—the appearance of a mouth and a special digestive cavity. The digestive system continued to develop itself throughout the whole gamut of life and in the life of man, we find not only its enormous elaboration and systematic perfection with the addition of a stomach and two intestines but also its co-ordination with many other organs and parts of the body, which co-operate to aid the function of the system. It is the urge of co-ordination of life, which is instrumental in bringing in all the changes, additions and improvements, in gradual stages, in the nature of the organs and the processes for the assimilation of food. The systematic process for the improvement and elaboration of the digestive system is, undoubtedly an expression of the vital urge of life.

The system of reproduction was extremely simple in the lives of unicellular organisms. But it had certain defects; it was destined to degenerate species and so the bisexal system with various new conditions in the shape of the perfection of special organs and their various forms of co-ordination appeared in gradual stages. Here we find the systematic growth of improvement in the mechanism of another basic process of life through the synthetic process of co-ordination.

The appearance of gradual improvement and modification of organs, limbs and fundamental processes with their co-ordinations with other parts and functions of the body so as to evolve efficient mechanisms of all the processes of life, signifies the vital role played by the urge of co-ordination. All improvements in these fields are synthetic additions co-ordinated to the existing conditions in gradual degrees. It is, however, interesting to discuss the evolution of the brain because its gradual development is caused by the vital urge of co-ordination. And nor is that all; the brain which is a product of the co-ordinating urge is itself an ingenious contrivance for effecting co-ordinations of the various parts of the body. The appearance of the brain promised the opening of the door of the mental world in the life of the organism. And when, at a particular stage, the door was opened it was the brain which took to co-ordinations in the new field. The mind did not appear suddenly along with the brain. It existed in a confused form, scattered all over the body of the organism, even before the formation of the brain. It was like the digestive function of the organism, which worked even before the formation of the stomach.[9] The purposiveness of the lowest organisms is an indication of the presence of the mind in its primitive form.

Apart from the internal drive for the evolution of organs, which was an expression of the co-ordinating tendency of life to increase the efficiency of functional processes there was another reason why organisms were encouraged to continue to evolve through co-ordinations.

Individual life has a tendency to establish co-ordinations with the external world. This tendency urges a continuous development of *receptivity*, for superior forms of receptions are naturally, due to establish better forms of co-ordination. And with the development of the mechanism of receptivity appears also, the development of the responsive structure of the organism bacause receptivity and responsive activities are, by nature, co-ordinated.

The enrichment of receptivity in connection with the development of the eye is an interesting phenomenon. Protozoa have no special sight-organs but they show a rudimentary sensibility to light. When a pencil of light is allowed to fall on one end of an amoeba the region on which light falls contracts almost at once, movements of other parts begin then and the animalcule soon moves away from the source of disturbance. In the case of the ciliate Stentor it is found that the front end of the animal is more sensitive to light than any other part of its body. This is perhaps the second stage in the march of progress of the evolution of the sense of sight. Protozoa generally avoid light. But there are protozoa that seek it; the example of the animalcule Paramecium bursaria may be cited here. Paramecium bursaria contains algae which need light for building up their foodstuff; this paramecium, therefore, always moves towards light and settles near the surface of water.[10]

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[9] Henri Bergson : *Creative Evolution*, p. 116.

It seems that protozoa generally feel light as a kind of sensation. But in the case of many protozoa there are special spots which help these animals to respond to light; these spots have been termed eye-spots. Although they do not involve sight as such these special structures give us an idea as to how the organization for seeing has been established through gradual co ordinations of parts and functions of organisms. There are multicellular organisms which do not have eyes; and nor do they have special spots at certain parts of their bodies for sensing light in any special way. Earthworms and tadpoles are sensitive to bright light but their sensitiveness for light is not localized to any particular region; it is distributed all over their skins. Functional tendencies that were originally vaguely distributed over the entire body are, at first, co-ordinated and concentrated at certain regions. And then with the continuation of the process of co-ordination they become more and more perfect with the addition of special organs and systems which, also, are brought into being by the same process of co-ordination.

Bergson had to face unsurmountable difficulties while trying to explain the evolution of the eye. Bergson speaks of the formation of the human eye in which thousands of elements are co-ordinated for the development of vision.[11] The development of vision proceeded not due to the co-ordination of various elements alone but due, in addition, to the co ordination of this co-ordinated part with a certain part of the brain. Darwin refers to the 'Correlation' among different parts and characteristics of animals. He tells us that pigeons having short breaks have short feet and those having long breaks have also long feet, hairless dogs have defective teeth and so on.[12] He calls this relation mysterious; but there is really nothing mysterious about it. It is an outcome of the working process of the urge of co-ordination of life. The acceptance of the concept of the urge of vital co-ordination can give us a clear indication of the method of working in the evolution of the apparatus of the eye. It is the conspiration of the tendencies of receptivity and response under the pressure of the urge of co-ordination that has overcome all difficulties and succeeded in creating a wonderful organ which, in its turn, is destined to effect new varieties of co-ordinations in life. Is not the eye an organ that can intrinsically effect a world of new patterns of coordination for enriching life?

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[10] H G. Wells, Julian Huxley and G. P. Wells : *The Science of Life*, pp. 665 66.

[11] Henri Bergson : *Creative Evolution*, p. 65

[12] Charles Darwin : *The Origin of Species*, pp. 9,108.

The brain is the master organ for co-ordination. It not only co-ordinates and thereby brings different parts of the body under its control for a proper regulation but it opens up, also, the scope of new co-ordinations in the mental phase of life. The brain grew in stages under the pressure of the urge of co-ordination; nerves in various forms and ganglia are the forerunners of the brain. Even in the lowest phylum of Protozoa, in some organized organisms such as Infusoria we find that there are nerve-like fibrils which co ordinate the movements of the cilia. These fibrils serve, in a primitive way, the functions of nerves.[13] In the next phylum, in sponges, we find a crude kind of transmission which reminds one of the nervous activity.[14] Distinct nerves in the form of nerve-nets and nerve-rings appear in the next-phylum—in the coelenterates. Both the Hydra and the Sea anemone have nerve-nets but the jellyfish possesses a dense ring of nerve fibres. In the next phylum of flat worms certain further advancements are noticed. Flatworms possess a bilateral symmetry and a central nervous system with a miniature brain of two nerve ganglia. But the brains we speak of in these worms are highly simple and abundantly primitive. Yet they serve as milestones in the path of the progress of the brain. Again, when we come over to the phylum of Annelida we find a peculiar development of the nervous system and the brain. The earthworm has a brain of two nerve ganglia, a central nerve cord with a swelling in each segment and a nerve collar connecting the brain and the cord. These swelling found in each of the segments are really ganglia which are brainlike in their working.[15] The biological progress from the lowly organisms to the highest Primates has been due to the progress of the integrational organization of the nervous system.[16]

The brain continues to develop from phylum to phylum though not regularly always. The stage of the mammalian brain is supremely interesting because it is already highly organized. The expansion of its cortex took place, in a certain particular way, from the rudiments that were akin to those found in birds and reptiles today. The sector—known as archipallium—which is co-ordinated with the sense of smell was the first to develop broadly. The other sector—

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[13] *The Science of Life*, p. 673.

[14] Parker calls such forerunners of nervous activity : 'Neuroid transmission' (vide *The Science of Life*, p. 674).

[15] *The Science of Life*, p. 677.

[16] Henri Bergson : *Creative Evolution*, p. 132. Also, C. S. Sherrington : *The Inegrative Action of the Nervous System*

known as neo-pallium—which is even now small in primitive mammals, expanded gradually by suppressing the archipallium more and more. The chief characteristic of the neo-pallium is its organic system of co-ordination with other parts. The neo-pallium has co-ordinating connections with certain important senses. There are different areas on the cortex, which are co-ordinated to different senses, tendencies and activities. The areas most important in the evolution of the brain are the '*Association areas*'. Undoubtedly they are the regions which have got intimate connections with intelligence.

The primitive brain was co-ordinated to sense-organs and certain groups of muscles. With the appearance of the cerebral cortex the enrichment of the co-ordinating function was augmented to a great extent and in the case of mammals areas of higher grades appeared, which were also co-ordinated to it. The neo-pallium continued to develop steadily and in the lives of primates we have a distinctly enriched brain with an elaboration of 'Association' and other areas. All these changes have been brought about for the betterment of the co-ordinating power of the brain and they have been effected by the co-ordinating urge of life.

The chief parts of the human brain—even the pons and the medulla oblongata—are all co-ordinating agents. Either they form co-ordinations directly or they mean to aid the formation of co-ordinations. The cerebrum of which we have discussed so much has become the seat of sensation, intelligence and will because of its being the centre of various kinds of co-ordinations. The cerebellum also is a direct co-ordinator; its main function is the co-ordination of movements and the maintenance of balance.

The superiority of man lies entirely upon the superiority of his brain. Man alone is the possessor of such a highly developed organ. The perfection of the human brain is due to its functional capacity to co-ordinate in a superior manner. That the brain of man is better as a co-ordinating agent than that of any other animal can be ascertained even from its physical structure; human brain has a vastly greater number of connections of nerves among the higher centres of the cortex and muscles. Such connections and inter-connections of the nervous system, specially of the brain, mean the enormous development of the power of co-ordination and an increase of this power signifies the superiority of the brain. Comparative study of brains suggest that no physical characteristic, weight, bulk or appearance is an indication of their higher functional capacity.

Man's superiority over animals is not due to the conditions of his sense-organs because there is, in fact, no sense-organ in which he is absolutely superior to all other animals.[17] His organ of sight is far inferior to that of many birds specially of the eagle. In his sense of smell he stands nowhere near wolves, dogs and cats. The sense of hearing too is more highly developed in many animals than in man. The sense of touch seems to be far more delicate in the lives of many birds and animals than it is in man. It is rather difficult to compare the degrees of perfection of the sense of taste in animals and man; but even then, by depending upon indirect indications it can be stated that such animals and insects as have better sense of taste than that of man do exist in Nature. Apart from the consideration of the sense-organs it is also true that man lags behind many animals and birds in the development of the degree of perfection of certain limbs and organs also. Thus hands and legs of man are inferior, from the point of view of evolution, to those of many animals. The idea is now clear that man is not superior to other animals either in the stage of development of any one of his sense-organs or in the perfectional condition of any of his limbs and organs. Even the teeth of man are not specialized; they exist in all the general forms—molar, pre-molar, canine and incisors. And as the teeth and the digestive system are naturally co-ordinated human digestive system is absolutely generalized. Specialization has not taken place in any of man's organs but it is there in his system of co-ordination of all his organs. It is the specialization of the power of co-ordination in man that has made him supreme.

Nerves appeared for effecting co-ordinations in a primitive way and along with the growth of their complexity and functional efficiency appeared ganglia and brains, in gradual stages, as effective centres of co-ordinating activities. Also, the evolution of the brain signifies its gradual rise in the capacity for making more and more and better and better forms of co-ordinations.

An extreme degree of specialization of any of the sense-organs is not a useful acquisition; rather, it has proved to be highly detrimental to species. Real power does not emanate from the perfectional pitch of any or all of the organs; it emerges from the development of the condition of the system for co-ordinating all organs. The analysis of the conditions of the mammalian brain at different stages gives us an idea of the nature of the changes that have taken place during the evolution of the human brain. The region of the brain co-ordinated to the sense of smell in the jumping shrew (Macrosulides), a very primitive mammal, is rather extensive but the region co-ordinated to this sense is found to be diminished in the brain of the tree shrew, (Tupia), a species which occupies a higher rung in the ladder of evolution. Steady but gradual reductions of the olfactory regions are noticed in the brains of the tarsier (Tarsius) and the marmoset (Hapale), which occupy successively the higher positions in the scale of evolution. But the gradual suppression of the olfactory regions in these cases is compensated by the gradual development of the Prefrontal and 'Association' areas along with a few sense regions existing in undeveloped conditions.[18] These sense regions grow, because they were probably indispensable for the proper development of the 'Association' areas. Specialization of structures has low survival values; animals that could effect highly specialized organs and bodies have died away. The reason of their extinction is not far to seek. Specialized organs and structures can work marvellously only under specific conditions; they are put out of gears with the change of circumstances. The chief characteristic of life is its power of co-ordination. It is this power which gives life its capacity to live and to prolong its continuity by creating new conditions. If specialization of structures stands in the way of its capacity to co-ordinate with new circumstances life loses the power of its own chief characteristic; and sooner or later it is destined to be reduced to the state of non-living matter.

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[17] J. C. Johnson: *Educational Biology*. p. 132.

The specialization of the brain, however, effects an altogether different situation; it only adds to life a greater power to survive. As the brain is a special and specific organ for co ordination its development naturally promises a greater power to co ordinate with new circumstances. The generalization of structures seems to be a necessary condition for the development of specialization of the brain. The gradual lowering down of the level of specialization of the olfactory sense when we observe and pass from the jumping shrew to its tree variety and then to the tarsier and to the marmoset indicates that the gradual development of the brain has necessitated the gradual lowering of the sense of smell. It seems that the condition of specialization of the brain is naturally co-ordinated to the condition of generalization of structures.

The brain of man is from various points of view, of a high order but that does not mean that it admits of no further improvement.

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[18] Elliot Smith: *Essays in the Evolution of Man.*

The superiority of the human brain rests upon its structure; it is more than likely that conditions will improve in future and man will go to possess even a better brain than he possesses now. Human reactions in different situations indicate that human brains are not identical; they have different characteristics. It is possible to accept the idea that brains of geniuses are the forerunners of the brains that will come to all in some distant future. The chief characteristic of the mind of modern man is its ability and willingness to co-ordinate imaginations with realities of life. And this means that unlike the mind of primitive man, which is generally given to idle imaginations only, the mind of modern man is given to both imaginations and thoughts of reality. The secret of man's success in ushering in his civilization lies in his capacity to take advantage of this combination. Without the elements of imagination man would never have gained his power of invention and without the elements of realities he would only have drifted from one place to another in his mysterious world. The total effect of this way of thinking in modern man has been the enormous development of his power of co-ordination; but the brain of the genius is an expression of this kind of mind. The analysis of the brain of the genius seems to reveal that its superiority accrues from its large blood-vessels which give it a chance to have a better supply of rich oxygen and the preservation of a better system of interconnection[19] amongst the cells of the brain. But both of these characteristics ensure capacities for better co-ordinations. Even the temporary suspension of an adequate supply of oxygen is followed by the lowering of muscular co-ordinations. Miners working up in the Andes, in Peru, have been found to have less muscular co-ordination than those working at sea-levels. That the difficiency of oxygen at high altitudes is responsible for the development of this condition has also been asserted by mountain-climbers who relate that above a particular height they definitely lose their power of co-ordinating their limbs and they feel as if they are living in dreams. The other chief characteristic, of the brain of the genius is its system of interconnection amongst the cells of the brain. But this state of interconnection signifies the building up of the spirit of co-ordination amongst the cells of the brain. It is, then, the greater power of co-ordination that makes the mind of the genius different from the mind of ordinary man.

As somatic conditions are co-ordinated to physiological processes, co-ordination as a method for the development of the physiological processes has played a tremendous role in the life of man. Take for example, the process of absorption of food by man. The entire process, starting from the intake of food and terminating in the excretion of the refuse, depends, at different stages, upon a series of co-ordinations with various parts and functions of the body for its normal working. When we analyse the physiological processes of man we are convinced of the fact that they all function not as single processes, but as groups of processes; the spirit of co-operation and co-ordination is the secret of the effectiveness of these processes. But we are not used to look at physiological processes from the point of view of the concept of co-ordination.

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[19] " Doctors dissect Einstein's Brain to find Secrets of the Genius".—*Ralph Middleton.*

Life and its urge to co-ordinate are inseparable. It is the process of co ordination that builds up all conceivable entities that belong to life. The process, in a sense, works like the system of compound interest ; it not only effects various forms of co-ordinations but goes on also to create, organize or systematise organs and systems which, in their turn, start to make new forms of co-ordinations. This is how the process becomes more and more intensive in life.

Life seeks not only to bind additional bodies but also to establish internal relationship with these bodies so that they may be serviceable to it. No other word except the term *co-ordination* can give us an idea of the nature of this basic process of life. Let us then, say that life co-ordinates with new objects to effect its own change of nature and growth. What happens, apart from the physical consolidation of additional parts, is that the spirit of solidarity which already exists among the different parts of the living body is extended also to the new parts.

The living body consists of different parts, for different functions, joined together to make a united whole, generally known as an individual. In lower forms of life, specially in the world of plants, individuals cannot develop their individual characteristics properly for their parts are only loosely held up. And no wonder many consider plants as societies rather than individuals.[20] The higher an organism occupies a rung in the ladder of evolution the better is its internal organization for the establishment of unity in its body. And so the growth of an organic body is quite unlike that of a crystal in which the parts that come to juxtapositions are all similar.

The co-ordination of motor and sensory organs is an established fact in life like the co ordination of organs and their functions.

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[20] Herbert Spencer : *Epitome of the Synthetic Philosophy*, p. 94,
Also, Henri Bergson : *Creative Evolution*, p. 17.

Organs and functional systems appear because they are brought into existence, for the use of organisms, by the co-ordination of countless elements. There is unity in individual organisms because all their parts and organs are so wonderfully co-ordinated; and there is also a sort of unity amongst all living bodies because of the similarity in their basic structure. Both of these two kinds of unity owe their existence to the nature of the natural methods of development by the process of co-ordination.

The appearance of intelligence in animals is a mark of distinct advancement in life. Bergson suggests that the function of intelligence is to form relations and to achieve unifications [21] We put the idea in a different way; we can say that the function of intelligence is to effect co-ordinations because the power to establish relations and to effect unifications is identical with the power to co-ordinate. The rise of an advancement in life along with the appearance of intelligence is, really due to the increase of the power of co-ordination.

It is probable that many other planets have life on them. And if life exists on them it must have either evolved or is due to evolve to higher forms of life. Let us try to guess the forms in which life might be present in other planets. It may be that the basic chemical compounds in the bodies of organisms there are different from those we find in living bodies on the earth; this difference may be due to the readiness of carbon chains, under different conditions, to link also to elements other than nitrogen, oxygen and the like. Moreover, it is possible that primitive organisms on those planets can fix many other elements from atmospheres by processes which are not identical with, but quite akin to the process ef photosynthesis becaues it is natural to think of the presence of other varieties of rays and radiations there. All these different conditions as well as those of temperature and pressure of air must have garnished life with bodies different not only in shapes and forms but also in the mechanism of functional organs. Life in other planets may be entirely different in many respects from the life we know on the earth but it must possess, not unlike the distinctly characteristic possession of life on our planet, the vital urge of co-ordination. Bereft of this urge life can neither rise to higher forms nor keep up its continuity. For the sake of argument let us suppose that a peculiar form of primitive life which is destitute of the urge of co-ordination exists in a planet. Without this fundamental urge it cannot evolve; nor can it

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[1] Henri Bergson : *Creative Evolution*, p. 160.

propagate. We can imagine that it may grow automatically under the strain of certain conditions of heat, light and other factors which might synthesise the constituents of its body. But when a colony of such life is destroyed it must start anew or it is gone for ever. It cannot possibly live and die and yet leave its descendants. Are we prepared to call it life? A living body must have lifelike characteristics. Life is like a moving torch of fire from which flying sparks proceed to develop new sources of fire on its trail.

THEORY OF COMEDY

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There are two general notions about comedy: that it should end happily and that it should produce laughter. These notions are rather crude and incomplete. And they are no satisfactory explanations of the nature of comedies, particularly of modern comedies.

There is a conventional belief that a tragedy ends with death and comedy with marriage. But death or marriage is no real guide in the matter of determining the class of a play. *As You Like It* is called a comedy, and it ends with the union of Orlando and Rosalind, of Oliver and Celia. As it is labelled a comedy and as there is no death in it, one may be tempted to pin one's faith on the conventional belief that a tragedy ends with death and comedy with marriage. But supposing Shakespeare had caused Oliver to die from the bite of the snake, would he thereby have turned the play into a tragedy? *Macbeth* is known as a tragedy. But certainly it would not have been a comedy, if Macbeth had not been killed by Macduff, or Lady Macbeth had not died of delirium. Mrs. Warren in Shaw's *Mrs. Warren's Profession* does not die. But can this play be taken as a pleasant comedy in the conventional sense of the term? In *Arms and the Man* Raina finally chooses her 'chocolate-cream soldier'. But what would have happened if Bluntschli had been a married man or Raina a teen-aged girl? Would the play then have ceased to be a comedy? The answer is obvious. It is quite clear that death or marriage is no test of a tragedy or comedy and that to call a play comedy, simply because it ends with a marriage, is a misnomer.

Then there is the question of laughter. The popular idea is that if a play makes one laugh, it is a comedy. But is it proper to indentify the causes of laughter with the themes of comedies? Laughter is an old, very old human habit. And it does not always seem a very pleasant habit.

What is the cause of laughter in life? And what are the types of laughter found in life? These are two natural questions that confront a student as he tries to explain the nature of comedy on the basis of the theory of laughter.

A man is tickled and he laughs; a fatty fellow tumbles down on a dry ground and people laugh; a jester causes his spectators to laugh by his talk; and a mad man laughs wildly. Should all these cases go in the same catalogue of laughter? No one perhaps will claim so.

The cause of laughter is both physical and psychological. A man laughs, when there is in him some physical sensation. This sensation may not always be very pleasant to him. Nevertheless, it touches his comic spirit and makes him laugh. Again a man laughs as his mind realizes something funny in a situation or in the conduct of a man.

And the types of laughter in human life, as already noted, are varied. A man may be prone to laughter on various occasions. A mad man laughs and a clown laughs. Their laughter is not of the same order. " Laughter ", as remarkably observed by L. J. Potts, " is a very erratic and unreliable action, ranging from the hysterical scream or giggle to the deliberate trumpeting of disapproval or discontent, and from the loud guffaw of the vacant mind to an utterly peaceful signal of sudden sympathy or complete understanding." [1]

And mere laughter is not the sign of comedy. Lear laughs and the Fool laughs. But do they make *King Lear* a comedy? The fact is far from that. A young man moving through a crowded street in a motley-coloured dress may well become the object of fun, but the laughter caused by his dress can never be the substance of a comedy. Mrs. Malaprop's ' oracular tongue ' and ' nice derangement of epitaphs ' can easily lead a man to brust out in irrepressible laughter. But *The Rivals* does not become a comedy for this " great mistress of language. What Mrs. Malaprop does provoke, is nothing but the mirth of a farce." *

" The logic of a comedy ", writes Feibleman in his illuminating treatise *In Praise of Comedy*, " is the part of aesthetics, an aesthetics of comedy, which proved amusing would be a false aesthetic, just as a vaudeville comedian who chose to expound to his audience the Bergsonian theory of laughter would be a bad comedian.[2] The emotions roused by a comedy is not the cause of laughter, and hence laughter can never be the signal of comedy. As a mater of fact, the end of a fine comedy seldom finds people laughing. The end of *Arms and the Man*, with Bluntschli talking business and Sergue exclaiming in jealous admiration " What a man! Is he a man?" [3] produces not laughter but appreciation for Shaw's masterly dramatic artistry. " Many of the greatest comdies " in the opinion of Potts, " have a rather sobering effect." [4] The end of a good comedy, indeed, sobers one's view of life and has nothing to do with unthinking, idle laughter.

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[1] L. J. Potts, *Comedy*, p. 19.

* *Farce* is not comedy. It is " a short dramatic work in which the action is trivial and the sole purpose is to excite mirth ". It is roughly, according to Potts, " physical sensationalism of a ludicrous kind ", " comedy with the meaning left out ".

Potts further adds that " though farce is not comedy, comedy can contain farce." The statement may be expanded by pointing out that the farcical humour or frace can be raised to the lavel of comedy or ' the comic ' if the author can give it (situation, character or even an incident) a general signification and raise it to the level of the universal.

[2] Feibleman, *In Praise of Comedy*, p.

But the old question remains. What is comedy? Is this comedy something mysterious and inexplicable?

Most of the definitions of the world of art and literature go back to Aristotle, the great Greek master. And his definition of comedy runs thus :

" Comedy . . . . . is an imitation of bad characters; bad, not with respect to every sort of vice, but to the ridiculous only, as being a species of turpitude or deformity; since it may be defined to be fault of such a sort as is neither painful nor destructive. A ridiculous face, for example, is something ugly and distorted, but not so as to cause pain." [5]

Aristotle's theory might be applicable to the comedists of ancient Greece, but so far as the comedies of Shakespeare and of modern times are concerned, it is quite untenable. Only fools will find the imitation of the ridiculous in the character of Touchstone who " uses his folly like a stalking horse, and under the presentation of that he shoots his wit." [6] And what is ridiculous in Shaw's *Arms and the Man*? Shaw has not certainly imitated the ridiculous in his coward-soldier. Shaw's ridicule is, no doubt, patent in his potrayal of Raina, Sergius and the Petkoffs. But it is a ridicule different from the sense in which Aristotle used the term *ridiculous* * And certainly an ' ugly and distorted ' face, how much innocent the mirth produced by it may be, can never be the basis of a modern comedy.

Aristotle's statement that a comedy is an imitation of the ridiculous implies that a comic playwright should primarily be concerned with the depiction of the ludicrous traits of human nature. But the presence of something ludicrous stirs the comic spirit of man, and he laughs. The question of laughter returns again.

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[3] Shaw, *Arms and the Man* (Act III).

[4] L. J. Potts, *Comedy*, p. 19.

[5] Aristotle, *Poetics and Rhetoric*, p. 12, Everyman's Library No. 901.

[6] Shakespeare, *As You Like It* (Act V, Sec. IV).

* **The term** ***ridiculous*** means ' fitted to excite ridicule ' ! A man becomes ridiculous **when he** excites contempt or laughter. ' Ridiculous ' in Aristotle refers to the laughable aspect of a man who is an object of fun to others.

In his celebrated *Essay on Comedy* Meredith points out that the business of comedy is to awaken thoughtful laughter.[7] The term *thoughtful laughter* may seem paradoxical to many, but it is the recognition of the fact that laughter which lives in many forms, is often engineered by thought. There is empty, thoughtless laughter, and there is also thoughtful laughter, that is laughter fundamentally based on the thoughtful appreciation of certain elements in man and his society. Sober people laugh spontaneously, when they witness a duel of wits. And they do so because of their appreciation of the thoughtful element in the material of the parties involved in such an exchange.

But the frontiers of thoughtful laughter are not distinctly marked. In fact, thoughtful laughter is, in many cases, in the border-country between laughter and tear. Macbeth murders Duncan and laments for his inability to get the mercy of God. To many people his utterance—*But wherefore could not I pronounce Amen? I had most need of blessing, and Amen stuck in my throat*[8]—may appear pathetic and tearful. But a thoughtful man may find in it food for his thoughtful laughter. Macbeth has violated the sacred commandment of God, and he still expects His mercy. How silly this Shakespearean hero is! His is just like a child's claim to eat the cake and have it intact at the same time.* And the man laughs thoughtfully, for he has realized the wide difference between what Macbeth has done and what Macbeth wishes to have. When Sergius in *Arms and the Man* displays his conventional heroism by telling boldly Bluntschli to his face, " I never apologize ", the audience present may laugh at him. But laughter is here not far from tear that a thoughtful realization of this Bulgarian hero's tragedy will lead one to shed.

' Thoughtful laughter ', then, is no criterion of comedy, as it may be present in tragedy, too. In what point does a comedy differ, then, from a tragedy?

One of the valid principles which help one to find out the nature of comedy, is to differentiate it from tragedy. There are opinions galore to show how comedy is to be distinguished from tragedy.

Aristotle contends that " the aim of comedy being to exhibit men worse than we find them, that of tragedy, better."[9] Any one having a fair conception of a Shakespearean hero cannot certainly agree with the Greek master that tragedy exhibits men better than what they really are. How can Orlando and Rosalind be taken as worse than normal men and women? Falder of Galsworthy's tragedy " *Justice* is worse than many real young men of his age and position, and Shaw's Nicola and Louka are certainly many times better than the servants generally found in society.

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[7] Meredith, *Essay on Comedy.*
[8] Shakespeare, *Macbeth* (Act II, Sc. II).
* This suggestion is made by Douthie in his *Shakespeare*, pp. 163-64.
[9] Aristotle, *Poetics and Rhetoric*, p. 7, Everyman's Library No. 901.

Bergson in his discussion on *Laughter* claims that " comedy bears a closer resemblance to real life than tragedy does ".[10] But drama, whether comedy or tragedy, is based on life, and no true drama can be divorced from it. It is too much to imagine that comedy bears a greater resemblance to life than what tragedy does. The story of the forest of Arden is perhaps not more real to life than the nocturnal deed in the castle of Inverness.

There is again Horace Walpole's famous dictum that " life is a comedy to those who think and a tragedy to those who feel ".[11] This brings the issues of thinking and feeling in the appreciation of a play. Walpole's maxim may be applied to the realm of drama to suggest that if the dramatist touches the thought of his audiences, the play is a comedy, and if he touches their feeling, it is a case of tragedy.

" There's nothing either good or bad, but thinking makes it so ",[12] says Hamlet, and he expresses here a great truth of life. Marriage may be thought good by some people and bad by some other. And marriage does not become good or bad by their contrary ideas. There is no golden rule of thinking. One may think Macbeth a hero and another a villain; Bluntschli may be an intelligent realist to one and a romantic anarchist to another...

There is equally nothing absolute about human feeling. People may feel funny when a man is tripped off his feet while treading on the husk of a plantain. But supposing that the wife of the man is with him, what will be her feeling? Quite different certainly. To them he is an object of fun; to her he is an object of pity and sympathy. They may take the situation as comic, but she can take it only as tragic.

The fact is that both in feeling and in thinking the point of view of the person or persons concerned is of utmost importance. It is the point of view of those people or of the wife that makes the incident of a man falling in the street funny or pitiable.

And it is this point of view that determines whether a play is a tragedy or a comedy. Baker in his *Development of Shakespeare* points out how the *Trial scene* of Shakespeare's *The Merchant of Venice*, which is known as a comedy, becomes a tragedy from the point of view of Shylock.[13] Shylock fails to avenge the wrong done to his race by the Christians. He fails to achieve his ambition like so many tragic heroes. There is something tragic in his failure, and *The Merchant of Venice* may, in the feeling of one who has the tendency to look at the whole thing from the point of view of the Jew, seem to be a *tragedy of Shylock, the Jew. Arms and the Man* is a comedy from the point of view of Bluntschli, Raina and Louka. But from the point of view of Sergius, despite his union with Louka, the end of play is rather tragic, for, Sergius has been beaten both in soldiering and in love.

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[10] Bergson, *Laughter* (Trans. Brereton and Rothwell).
[11] *Letters of Horace Walpole*, ed. Mrs. Toynbee, p. 316.
[12] Shakespeare, *Hamlet* (Act II, Sec. II).

The nature of a play, however, is determined by the point of view of the playwright as well as of playgoers. And a skilful dramatist knows how to make the play tragic or comic from the point of view of his audience. The Elizabethan audiences were against Shylock because of their strong racial prejudices against the Jew. The master artist in Shakespeare knew that and drew the play romantically from the commercial point of view. And *The Merchant of Venice* which ought to have ended with the *Trial Scene,* was dragged up to farcical ring episode to satisfy the point of view of the vulgar Elizabethan audience.

The point of view of the playwright and of the playgoer is the predominant factor in the assessment of a tragedy or a comedy. If the point of view of the author tallies with that of the majority of his audience, the recognition of the spirit of the play as a tragedy or a comedy becomes very easy. *As You Like It* or *Arms and the Man* is a comedy, because the point of view of the author and his audience is in that direction.

After all, life is neither a tragedy nor a comedy. It is a tragi-comedy, a serio-comic affair. And drama which deals with life, too, cannot properly have any absolute business either with tragedy or with comedy.

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[13] Baker, *Development of Shakespeare.*

NOTES ON THE RELEVANCE OF THE SECTORAL CONCEPT IN THE THEORY OF ECONOMIC DEVELOPMENT

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Synopsis :

1. Introduction.
2. Clarkian Concept of Sector.
3. The recent Modifications of Clark.
4. A Modified Concept.
5. Its Relevance.
6. Limitations & Conclusions.

There is no unique principle of economic development. There are however principles and patterns. Nevertheless in one form or other, the concept of an economic sector or a region, however defined, has found its place in any theory of economic development. This may be due to the need for identifying the overall growth of an economy into its component economic sectors, and alternatively for specifying the most potent condition for economic progress. In both of these cases, however, the concept of economic sector has been employed with twofold purposes. Either the correspondence between sectors and the economy as a whole with a particular sense of economic development has been presumed to characterise the structural basis of an economy and secondly some implicit idea of sectoral imbalance or rigional disparity has been sought to be developed in this respect. It would be the purpose of this note to show that there are alternative principles of economic aggregation behind sectoral concept and in terms of growth a new outlook is necessary in the concept of sector, specially in the context of operational planning. From the point of view of programming, the meaningfulness of the sectoral balance idea for a developing economy may then be finalised in altogether an illuminating angle.

We may start with Colin Clark[1], the pioneer in the formulation of the typology into primary, secondary and tertiary sectors and note the difficulties in equating these sectoral ideas to structural basis of the economy. If economic progress means growth over time of *per capita* national product, it was easy for Clark to identify primary sector with that where production of output *per capita* is the lowest.

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[1] . *Vide* Colin Clark : *Conditions of Economic Progress.*

In a scheme of increasing total of national income, this means that the primary group of industries is inelastic over time with respect to increasing aggregative demand. Empirically it was very easily found out that most of the agricultural sector of an economy falls in the primary category. Even in this limited version however, Colin Clark was aware that countries like Australia and New Zealand are there where *per capita* production in agriculture was the highest. But for most of the underdeveloped and undeveloped economics, the Clarkian generalisation was valid. Why? It was argued, that if aggregative demand creates the supply and the elasticity of such demand for products other than food and necessaries has a tendency to exceed unity, according to Engel law, in its macro-aspect, then the perspective of induced growth emerges quite clearly, for non-primary industries in general, and for tertiary in particular. The condition of economic development is simply then the transference of factors including labour from primary to secondary and to tertiary sectors.

The obstacles to the process of creation of a large tertiary sector are then the main bottlenecks to economic development, according to this Clarkian School.[1a] If demand creates its own supply, there can be no other bottlenecks to automaticity of economic development. One may even have pointed out that all economic progress is not purely demand-induced, it is materially influenced by technical conditions of supply, or technique of production and innovation. In the latter case, the supply creates the demand to a large extent and not *vice versa*. There are thus difficulties in secular application of Clarkian concept.

Assuming that demand creates its own supply, there is a further consideration. Aggregative demand however assumes aggregate income of a given type of distribution. If the income distribution is of significant inequality, as is likely for mature capitalistic economics, the marginal propensity to spend on services and other than food articles, has a tendency to be higher, because of the operation of internal (Duesenberry [a]) and external (Nurkse [b]) demonstration effect, *via* demonstration of richer habits of living before the upper and lower middle income groups. This may account for a large tertiary sector catering for services and conspicuous consumption which is of the 'prosperity-induced' type.[2] If the interdependence of consumption

[1a] G. B. Fisher; *In U. K. and Others.*

[a] Duesenberry : *Income, Savings and Theory of Consumer Behaviour.*

[b] Nurkse, R. : *Problems of Capital Formation in Underdeveloped Countries.*

[2] B. Datta : *Economics of Industrialisation*, p. 113.

spendings be however of the opposite type so that, the subsistence standard of living of the lowest income group set the stage for the economy as a whole, then there may be overall tendency to 'emulate' (emulation effect)[3] rather than demonstrate, and even in this case the overall marginal propensity to spend may be lower, but still there may be a large tertiary sector employing human services, but mainly of the poverty induced type. The majority of overpopulated underdeveloped countries of the world approximate to the latter category, although the actual case of any economy is that of intermixture.

The problem of specification becomes all the more acute, when one thinks of national income as a product-mix and what Colin Clark means by unchangeable dollar value of a period as the measuring rod for values of national product for a growing economy. There are not only snags in international comparison by this measuring rod over time, because price indices do not always adequately reflect the economic reality and moreover one may easily point out that the rod may stretch, bend and crack, even if it tries to measure the relative value of product-mix of different sectors over time. The naughty index number problem is all familiar to students of welfare economics who have no unique criteria to decide the change in economic welfare, from different distribution of the product total. It is admitted however that the concept of national income as an index of economic welfare is different from its notion as an index of productivity for an economy: Yet, the evaluation of outputs of different sectors of an economy over time, by price indices always introduces an implicit value judgement.[4] The adoption of the unchangeable prices as the standard in the Soviet indices, irrespective of the free market evaluation, as under capitalism, have on the other hand introduced an element of arbitrariness in indices of growth of production.

One gets the difficulties insurmountable in the Clarkian scheme, when one comes to look at the preponderance of industries in underdeveloped countries catering for both manufacturing and trading (secondary—tertiary), agriculture and domestic services (primary and tertiary). The mixedness of enterprises argument has been emphasized of course by critics [5] of Clark to prove that Clarkian classification is unrelated to economic reality. What however has not been noted in this connection is that the presence of these mixed enterprises conceals the type of non-pecuniary interdependence of producing and distributing units which makes for the vicious circle of proverty to be completed. The mixedness of enterprises indicates not only a high degree of underemployment of manpower, but also a very low degree of utilisation of the existing capital. In a scheme of economic development, however, these are the industries which will have greatest potentiality of growth, by division of labour; At the present technique, market no doubt limits division of labour, but nonetheless it is true that after a stage, division of labour itself influences the market. Through bunching of investments, supply may very well create its own demand also. In other words, economic development after a stage may be supply-induced, rather than demand-induced.

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[3] Alan T. Peacock ed: *Income Distribution and Social Policy*: Article by Johnson.

[4] Baumol: *Welfare Economics & Theory of the State.*

[5] Profs. Bauer & Yamey in *Economic Journal Debate.* (1954 Dec.).

Some of these difficulties in the Clarkian system have been seen through by his recent supporters,[6] by setting up the principle of aggregation behind sectoral concept not in terms of market demand but of supply or production. In a very broad sense it is of course true to say that there is a fundamental technological difference in methods of production in agriculture (primary) and manufacturing industries (non-primary) if that difference is interpreted in its economic meaning by a further statement, not unlike that of Ricardians, that agriculture is influenced by the law of diminishing returns, whereas manufacturing by law of increasing or constant returns; For the static case of an economy at any point of time, this may well be a good generalization, but the secular operation of the Law of Diminishing Returns with changing techniques of production is rather like the search for a black cat in a dark room. In the perspective of growth,[7] that generalization loses most of its validity.

There is another difficulty of measuring technological hierarchy of industries or sectors, by such economic indicators like the capital output or capital labour ratios over time, even in the case of unchanged production functions. A lower capital output ratio may not always represent higher efficiency as again a higher capital intensity per worker is not always associated with higher product *per capita*. It all depends on the level of operation, the 'activity level' as it is called, in input-output theory. The Austrian concept of measurement of technological hierarchy by higher and lower order of goods according as they depend on different distances from final consumers' demand, is operationally not much useful. At most one may derive a very broad generalization that in the main, the changes in prices of finished goods are 'cost-determined', while that of raw materials including primary foodstuffs are 'demand determined'.[8] Ideas about the longer and shorter processes of production of the Hayekian School[9] are useful only when one can define properly the 'average period of production'[10] In other words, to say that the sector having production process longer than the average, is secondary, as opposed to primary, is not much helpful, if that average itself is not operationally easy of calculation. However, this is not so barren a track as yet. One may tread if one likes, provided he is careful.

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[6] *Concept of Sector*, Q. J.E., 1955,

[7] E. Domar : *The Verga Controversy*, A.E.R., March, 1950,

An alternative concept of sector may however be easily derived, if the Clarkian perspective of growth of national income is kept in view. The principle of aggregation has to be conceived in growth terms, if the process of growth is to be explained at least partially in materialistic standards. Obviously this is based on a growth coefficient which may be *ex ante* (or potential) or *ex post* (or the observed past). The crucial process behind economic growth lies admittedly in the rate of capital formation which means finally the rate of extraction of surplus of resources over consumption of an economy, although in the latter case, there remains the further problem of canalising the surplus to capital famation or net investment. Initially however, the higher the percentage of extractable surplus, the higher the potentiality of growth of output in future. The actual or *ex post* rate of extracted surplus depends for a given economy on the present system of organisation of production and distribution, but the next important problem of canalising the surplus to investment depends on the distribution of ownership of the surplus. In this perspective, bottlenecks to economic development must be sought for in the process of production, and distribution of ownership of the surplus. In this context, the Ricardian invectives against the rent-earning class (landed gentry) is easily seen to amount to the charge that large quantum of surplus of resources in forms of rent in the agricultural sector have been inactivated due to the peculiar ownership of the surplus which impedes further economic development of capitalism. Keynes' attack on the rentier element of capitalism *via* 'the euthanasia of the rentier'[11] is oriented primarily to eliminate the same bottleneck to further economic development of industrial capitalism.

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[8] M. Kalecki: *Theory of Economic Dynamics*, pp. 11-12.
[9] Hayek: *Pure Theory of Capital*
[10] Kaldon: *The Concertina Effect*, Economica, 1939.
[11] Keynes: *General Theory*, pp. 375-76.

We may aim at further precision of our concept. The input-output analysts[12] have recognised the effect of different principles of aggregation on the study of their models for forecasts. In fact, Dantzig[13] has classified *four* principles of aggregation like (*a*) complementarity and (*b*) substitutability of demand, (*c*) complementarity and (*d*) substitutability of supply. Ultimately of course, the problem as to how many sectors or industries should be there in an input-output matrix for an economy depends on the specific cases. But if every sector or economic region be defined in terms of its coefficient of growth, then supply and demand factors may be easily seen to be constituent parts of it. Each sector's coefficient of growth is in fact the contribution of that sector to national output over time and if we may divide three ranges of values of this coefficient, as less than unity, more or less equal to unity, and more than unity, then all the sectors of the economy may be placed in either of these three categories. The primary sector may then be redefined to mean that sector, whose incremental contribution to changing national income is less than unity over time. The tertiary sector will include all those enterprises for which the mean coefficient of growth shows sufficient elasticity (greater than unity). If on the *ex ante* sense however, the sectoral concepts are redefined, then the meanings may slightly differ; after an initial stage, the tertiary sector may offer less scope for further development in the potential sense. The potentiality of development in primary sector may be very large at the outset, in a changed context of ownership of surplus resources in different forms. This is the essence of the concept of 'potential wealth' to be derived from disguised volume of unemployment in over-rural sector.[14] The concept of mean coefficient of growth for industries is not new. In his pioneer, empirical work, *British Industry* (1700-1940), Hoffmann calculated in the forties of this century the mean coefficient rate of growth of output of various British industries. The way he arrived at so very important conclusions may be very aptly illustrated by his Table 22.[15]

MEAN COEFFICIENT OF GROWTH IN ENGLAND DURING 1855-1913 OF

(*a*) Population.. ...0.9
(*b*) Consumption of

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[12] Leontief: (*a*) *Structure of American Economy*; (*b*) *Studies in Input-Output Analysis* (NBER).

[13] Articles *The Aggregation Problem* in Economic Activity Analysis, ed. by O. Morgenstern, pp. 98.

[14] Nurkse: *Ibid.*

[15] Hoffmann: *British Industry*, transl. from German, p. 90, Table 22.

(*i*)	Flour	1.1	Inelastic demand over time.
(*ii*)	beer	1.1	
(*iii*)	spirits	0.7	

(*c*) *Industries of* :

(*i*)	Confectionary...	5.7	Elastic demand over time.
(*ii*)	Paper ...	4.8	
(*iii*)	Tobacco products	1.9	

The fact that there was little difference between growth in population and the increase in consumption of flour, beer and spirits confirms the impression that these articles of consumption have a relatively inelastic demand and have less importance for demand induced development in future.

Theoretically the principle of growth coefficient behind aggregation may be analysed further. If for every sector the net output (w) is conceived to be shared between fixed capital (c) variable capital (v) and net surplus (s), then from the relation $w=c+v+s$, one may define the coefficient of growth of that industry or sector to be equal to labour productivity ratio divided by one plus capital-labour ratio; the growth potentiality of each industry or sector is then seen to depend on the labour productivity itself and *secondly* on the technical level of operation specified by the capital-labour ratio or the organic composition of capital[16] in a slightly different sense. The higher elasticity of coefficient of growth of the newly defined tertiary sector may be either due to the higher labour productivity (net) over time and thereby higher level of extraction of surplus or due to change in capital-labour ratio over time, which may not always in the short run accelerate the rate of creation of surplus. The implications of such questions as to why one sector has low elasticity of growth over time, *i.e.*, why is it a depressed region, may then be easily pointed out. The coefficient of growth of a sector may then be easily seen to be equivalent to $d/(a+b)$, where a, b, d, are respectively the relative shares of C, V and S. (*i.e.*, fixed capital consumption, distribution of real wage and net surplus respectively) at the initial period. The question why agricultural sector has remained depressed, *i.e.*, has not contributed to growing national income for an underdeveloped economy amounts to the question why d has more or less remained static over time. One may note that d over time in fact reflects the frequency distribution of ownership of the proportion of extracted surplus kept inactivated. Alternatively one may have pointed out that simultaneously with unchanged system of distribution of ownership of surplus (constant *d*), the ratio *b* over time which neglects distribution of real wage structure in the economy, has shown a tendency to increase in course of development in underdeveloped countries (increased marginal propensity to consume is partly due to the system of skewed income distribution in such countries). The bottlenecks to economic development may be set also by a maldistribution of ownership of available fixed capital leading to a positive degree of monopolisation in food and retail markets.

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[16] J. Robinson : *Essay on Marxian Economics.* P. Sweezy : *Theory of Capitalist Development*, pp. 68-72.

We have arrived at this stage, to some implicit principle of balanced growth, *i.e.*, that of regional balance. With the specification of the entire economy into non-growing, mildly growing and rapidly growing sectors (*i.e.*, the modified concept of primary, secondary and tertiary respectively) there is an implicit suggestion that as if for balanced growth, an economy should aim at equalising the coefficient of growth of every economic sector or region. This may be untenable in a particular case.[17] If it be the purpose of an underdeveloped economy to accelerate the annual growth of its national income to the maximum, the choice of those groups of industries or sectors must obviously be made which have the highest observed mean coefficient of growth: Depending on the functional distribution and some other considerations, the criterion of choice may well be the highest potential coefficient of growth, provided some measurable meaning may be developed for latter. In effect, if economic efficiency be the sole overall criterion, then there is no alternative choice left. We may now see that in this perspective of growth, the operational aspects of regional planning are more determinate now. This is simply to locate those sectors which remain 'depressed' and insensitive to overall development of the economy over time and the bottlenecks to economic development may easily be specified with precision.[17a] There will be another consideration which regional planning must needs make whether it is the fact that an economic region or economic sector, perhaps initially striking the path of economic development accidentally due to exogenous factors, is still expanding at the cost of other regions and sectors (external diseconomies of the aggregative type) or whether there is some complementarity between economic progress in various areas.[18] This complementarity of sectoral coefficients of growth and its cumulative external economies effect have been long emphasized by Allyn Yong[19] in the twenties of this century and Prof. Scitovsky[20] very recently ; From this viewpoint, one may readily support, Adler's[21] plea for considering external economies from building overhead capital as the crucial tool behind development of underdeveloped countries and his contention why less reliance is to be put on agriculture, as against development in overheads, because investment in overheads and not manufacturing as such has cumulative effect which agricultural investment has not ; This arises essentially from the outlook of growth sketched above.

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[17] It may be noted that the 'Commodity balances' idea or 'technological norms' idea in open or closed input-output model is not questioned here.

[17a] S. Bose : *Problem of Locating Depressed Regions*, Indian Journal of Agricultural Economics, 1955-56.

The relevance and realism of the modified sectoral concept developed so far, may be shown very easily in its resemblance with some recent theories of economic development. For example, a very recent school of regional economists[22] have maintained that the Clarkian theory of regional development is inadequate in that, it views the region as passing through various stages—primary, secondary and tertiary and instead, they hold the view that a region's growth is closely tied to the success of its exports and may take place either as a result of the improved position of existing exports relative to competing areas or as a result of development of new exports. The important point here is that the 'concept of export base' in regional analysis is called on as the major autonomous variable determining the level of regional income.[23] The persistence of underdevelopment in underdeveloped countries is explained in this view in such terms that the external 'export-base' in most underdeveloped countries has not been sufficiently predominant to counteract the low coefficient of growth of the primary and secondary sectors. Just like problems of capital formation, it is necessary to look into location theory to explain changes in export base ; the case of the lopsided economy of our country with more or less developed export sector for cash crops and raw materials, may be largely explained in such terms that the 'growing point industries'[24] of the export sector led to some cumulative adverse effects on the coefficient of growth of other sectors and made the vicious circle of underdevelopment complete.

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[18] T. Haavelmo : *Study in the Theory of Evolution.*

[19] Allyn Young : Article on *Increasing Returns and economic Progress* in Clemence—Readings in Economic Analysis, Vol. I.

[20] T. de Scitovsky : *Two Concepts of External Economies*, J. P. E., April, 1954.

[21] Adlers's article in A.E.R., May, 1952 : Papers and Proceedings Number.

[22] Charls Tiebout : *Exports and Regional Growth*, J.P.E., April. 1956 : A Reply by D. C. North.

[23] D. C. North : *Location Theory and Regional Economic Growth*, J.P.E. June, 1955.

[24] A term, used by H. Singer.

The development around a common export base has been hindered not only by the low coefficient of growth of the primary and secondary sectors but by a low coefficient of sectoral interdependence[25] or by a high degree of external diseconomies generated.

Another important line has been adopted by the recent location theorists. On the basis of occupation statistics for Great Britain and U.S.A., S. Florence[26] has set apart a class of industry that he designates as 'residentiary' or 'ubiquitous'—residentiary in the sense that they typically reside where the consuming population resides. With reference to a given region, the industries other than the residentiary ones are called 'the primary industries.' Industries are classified into one or other of these types on the basis of a measure called the coefficient of localization which is derived from 'location factor' for each region or sector. "The residentiary industries are those with low coefficients of localization, that is, those that are uniformly distributed according to population and that depend upon local markets for the disposal of their products. The residentiary service industries include gas, water, and transport, etc. In addition, many manufacturing industries show extremely low coefficients and resemble in this, the residentiary service industries." The residentiary industries may be called the passive industries, for these industries typically play passive role in the shortrun business activity of the region. The primary industries here may be called 'carrier industries' which are the tertiary group in over modified concept, for these are the regions by the media of which economic change is transmitted from region to region. Vining[27] has found on the basis of rough estimate for U.S.A. that typically about 2/3rds of a region's employment produces for local consumption, this portion of employment thus being passive in the interregional propagation of economic shock and that about one-third depends on external demand, being consequently the active carrier in the transmission of business activity and inducement; the estimate for underdeveloped countries in general will be a much smaller figure for the carrier industries with high coefficient of growth, and there may be relative predominance of 'passive' or residentiary industries which have lower coefficient of growth.

The potential concept of extractable surplus (*i.e.*, *ex aute* coefficient of growth) has some organic similarity with the concept of

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[25] R. Triffin : *Monopolistic Competition and General Equilibrium Theory.*

[26] S. Florence : *Logic of British Industry and other Papers.*

[27] Vining : *Location of Industry and Regional Patterns* ; Econometrica, 1946-47.

'income-potential' recently developed by Walter Isard.[28] The essence of this latter concept is that the income potential produced by any given region upon another region will vary inversely with intervening distance, *cet. par.* The interregional and intersectoral influences are the most important for those groups of highly growing industries, we called tertiary groups in our modification; but precisely due to this that much of the ideas on balanced growth are tricky. Even assuming a fully controlled economy the idea of 'ideal mapping' of economic space as inproduction oriented spatial system of Losch [29] is attended with manifold theoretical difficulties and operational indeterminacy; alternatively an implicit criterion of parity between industries and regions in terms of location factor, and coefficient of localization for given industries was there in S. Florence, but it was again in terms of one input coefficient, *i.e.*, labour; the extension by Vining in the classification of industries into active and passive group has served to bring in the growth perspective; but it is still debatable whether the idea of balance between geographic regions and industries is at all meaningful, in the operational sense. The concept of 'spatial multiplier' [30] may be more useful here when applied to a geographic region. If we confine our interest to the effects of a single change in the amount of investment outlays to their 'spatial effect only,' we may get an idea of the spatial multiplier. It measures the effects of a single dose of investment outlays on either investment or employment but not directly to income. Prof. H. Hegeland [31] has cited the case that when the U. S. Steel Corporation built a huge integrated mill at Pennsylvania at $450 m, further investment project of 4 billion dollars was started in the wake of construction boom, thus giving the value of the spatial multiplier of about 9.0 for this area, which is of a much higher order than the usual income-investment multiplier; this spatial multiplier concept seems to be most fruitful if applied to a sector which has just started becoming industrialized. This is because it clearly shows that the real multiplying effects are basically associated with the problem of building new industries in the right proportion. Herein the choice of industries with high growth coefficient is essential and the modified sectoral classification suggested above may be helpful.

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[28] Walter Isard: *Location Theory and Trade Theory*, Q. J. E., 1954.

[29] Losch: *The Economics of Location* (1954).

[30] J. S. Chipman: *The Theory of Intersectoral Money Flows.*

[31] H. Hegeland: *The Multiplier Theory* (1954).

The outlook of growth has relevance also to the mature economies, where attempt[32] has been made to identify the problem regions in Europe and to determine whether the gap between poor and rich regions within countries has on the whole been widening and even certain conclusions have been empirically drawn as to the type of industry best suited for establishment in poor regions both from the viewpoint of checking the cumulative process of concentration in the highly developed areas and from that of promoting the balanced growth of underdeveloped regions, in a mature economy.

For the underdeveloped countries however, the existing process of distribution of ownership of the surplus resources is nonetheless more important in that the monetization or non-monetization of this surplus though the imperfectly competitive market enter as an important variable in the process of economic growth; the degree of non-monetization, calculated by T. E. C. Report,[33] Vol. I has been of the order of 30 to 40 p.c. for India as a whole and if this figure applies also to the marketable surplus, the elasticity of the surplus with respect to monetary rural-urban terms of trade may be very low indeed. This also explains a large carry-over inventory problem which leads to cobweb fluctuations in agriculture in underdeveloped countries. The process of growth of monetization in this sense is a necessary concomitant for process of economic growth.

Our study above being mainly on the methodology has to omit several of practical difficulties and in this respect, we must be aware of the limitations of our scope of study. The process of generation of surplus is necessarily a time-consuming process, but here the question of time lags has been omitted; many other considerations like community preference about necessary and unnecessary consumption, etc. is involved in the potential measurements. With all these in mind we may briefly sum up the broad conclusions:

(*a*) The salient point is that there is no unique process of economic development and hence for each process there are alternative principles of sectoral aggregation with different implications of growth for future.

(*b*) But the process of extraction of surplus resources for capital formation by whatever instrumentality has been the common feature in economic development and hence the need for a study of the emergence and distribution of ownership of this surplus. But this may only be possible if we recast our notions of primary, secondary and tertiary sectors in growth perspective. And in this viewpoint, a sector or economic region not contributing to the rate of growth of national product total, may be left out of a special national income accounting which may then accurately reflect the economic strength of an economy in its potentiality of growth.

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[32] U. N.: *Economic Survey of Europe* (1954), Chap. 6. *Problems of Regional Development.*

[33] *Taxation Enquiry Committee Report*, Vol. I.

(c) The idea of sectoral balance may be then seen in altogether a different angle, and in its relation to other similar recent theories of growth.

(To be continued)

CRITERION OF MEANING AND CRITERION OF TRUTH

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I

I hope to maintain in this paper that the empirical criterion of meaning of the logical positivist, *i e.*, the criterion of empirical verifiability or confirmability of a statement, is really a criterion of *the truth-value* of the statement and not of its meaning. The logical empiricist seems reluctant to admit the distinction between the truth-value and the meaning of a statement. My point will be to establish the distinction. I shall show that even according to the logical empiricist the concept of meaning has a wider application than the concept of truth or falsity of a statement. I shall further argue that the so-called criterion of meaning is inapplicable in many important cases, as determinant of the *meaning* of a statement. But it is quite in order if we take the criterion to be one of truth or falsity of empirical statements.

By the word *statement* I shall mean here a sentence that expresses a 'proposition' or cognitive meaning. 'Statement' is to be distinguished from 'sentence'. Sentences may be interrogative, optative, descriptive, etc. Only a descriptive sentence expressing a proposition or cognitive meaning is to be called a 'statement', *e.g.*, "Snow is white." We shall avoid much confusion if we establish this convention of not using the words *sentence* and *statement* indiscriminately and synonymously. Two distinct verbal statements may express the same 'proposition' or cognitive sense that is understood when the statements are heard or seen ; *e.g.*, "Brutus killed Caesar" and "Brutus Caesarem occidit." By the word *proposition* I shall understand the meaning of a descriptive statement.

II

Now, the empirical meaning criterion claims to determine the meaning of empirical statements and this criterion distinguishes the modern form of logical empiricism from its older counterpart. With reference to analytic statements that are tautologies of logic and mathematics, the logical empiricist does not apply the empirical meaning criterion. Wittgenstein, from whose observations in his *Tractatus Logico-philosophicus* developed the modern form of logical empiricism, declares analytic tautologies to be nonsensical, though they may be taken as *important* nonsenses. Even if they are meaningful, they are so in a sense quite different from the meaningfulness of empirical statements. Analytic statements express propositions that are always true as they are true by virtue of the definitions of the symbols involved in the statements in question. The denial of such propositions is self-contradictory. The denial of an empirical proposition, whether simple or complex, basic or derived, will not, however, lead to self-contradiction. Such a proposition is expressed by a contingent statement that is not necessary like an analytic one. Its truth is also contingent. The phrase 'contingent truth' may seem paradoxical, for a truth that is confutable or corrigible by future experiences seems to be no truth at all. Yet an empirical proposition may be true in some other sense and Prof. Ayer is now ready to take at least the basic empirical propositions that refer, solely to the content of a single experience to be absolutely true[1] in the sense that they are not corrigible, even though their denial will not be logically self-contradictory. Thus like Leibniz, the logical positivists will distinguish two kinds of truth, necessary and contingent, and it is not for nothing that Leibniz is regarded as one of the precursors of logical positivism.

According to the empirical meaning criterion, statements, other than tautologies, are meaningful, if and only if they are verifiable or falsifiable through sense-experience, directly or indirectly. But this criterion of meaning is also a criterion of truth or falsity (contingent) of empirical statements, so that we cannot and should not make any distinction between the meaning of an empirical statement on the one hand and its contingent truth and/or falsity on the other. But this appears to me to be paradoxical. I think that the process of verification or comfirmation verifies or confirms the truth and/or falsity of an empirical statement but does not determine its meaning. To 'verify' is to 'establish the truth of' a statement according to the English lexicon. The criterion of verifiability is really a criterion of truth and not a criterion of meaning.

That the positivists like Prof. Ayer and Prof. Carnap take the 'meaning criterion' to be the 'truth-criterion' is amply shown by the fact that they do not take a statement to be meaningful unless it is either true or false, unless it is either verifiable or falsifiable through experience, at least in principle. They maintain that if we are to determine whether a statement is meaningful or not we are to consider the way we proceed to verify or falsify it by experience. Carnap says, "By a semantical system we understand a system of rules, formulated in a metalanguage and referring to an object-language, of such a kind that the rules determine a *truth-condition* for every sentence of the object-language . . . . . . To formulate it in another way the rules determine the *meaning* or the sense of the sentences."[2] Here it is obvious that the expressions 'truth-condition' and 'meaning' are used synonymously.

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[1] *Language, Truth & Logic*, 2nd ed., 1955, p. 10.

F. P. Ramsay and Prof. Ayer following him identify the truth or falsity of a synthetic statement with its meaning. A philosophical theory of truth is an attempt to answer a genuine empirical question. "How are propositions actually validated", according to Prof. Ayer. Thus to say that truth consists in agreement with reality is to give the criterion people actually apply to their beliefs. This 'agreement' would simply mean, according to Prof. Ayer, that we have the sensations which the statement in question said these would be. What the statement *says* is the meaning of the statement, *i.e* , the proposition. Thus, "Rose is red" expresses a meaning which is simply that if we are under such and such circumstances, we shall have such and such sensations. If by testing we find that the actual sensations *are* what the statement in question said they would be, then we find that the statement agrees with reality and we accept it to be true.[3] But this phenomenalistic interpretation of the meaning of a statement in terms of the possible sensations that will be generated when verified will lead to a linguistic solipsism as pointed out by many. This also leads to the view that the criterion of truth or falsity is the criterion of meaning and we get the following equations :—

Truth and/or Falsity = Meaning = Proposition = Sense of the statement. The question : "What is truth?" is thus equivalent to "what are the true propositions?" The *concept of truth* is not a genuine concept.

How, then, can Prof. Ayer take 'question-sentences' as *meaningful* though a question sentence is neither true nor false? It is only the *answer* given to a question that may be either true or false. Even with regard to question-sentences Prof. Ayer seeks to apply the empirical meaning criterion. "We enquire in every case what observations would lead to answer the question one way or the other; and if none can be discovered, we must conclude that the sentence under consideration does not, as far as we are concerned, express a genuine question, however strongly its grammatical appearance may suggest that it does."[4] As Psof. Ayer is making a distinction between genuine and pseudo question-sentences, he must admit that a question-sentence is meaningful when it is answerable by observation, without being either true or false. Question-sentences are neutral with regard to truth or falsity. But if they are meaningful, then the concept of meaning must be wider than that of truth or falsity. In that case it is difficult to maintain that the criterion of meaning is the criterion of truth or falsity.

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[2] R. Carnap, *Introduction to Semantics*, p. 22.
[3] A. J. Ayer, *Criterion of Truth*, published in 'Philosophy & Analysis', p. 239.

III

Prof. Ayer seems to identify the problem of the nature of truth and that of the criterion of truth; for, according to him, there is no genuine problem of the *nature* of truth. He endorses the view expressed in F. P. Ramsay's essay, *Facts and Propositions* to the effect that "there is no separate problem of truth but mearly a linguistic muddle."[5] Prof. Ayer identifies the question 'what is truth?' with the question "what is the analysis of the sentence 'p is true', where the values of p are propositions?"

For if we consider any sentence in which there is a reference to truth, we immediately find either that it is itself of the form "p is true" or else that it contains a sub-sentence of the form "p is true" and that when it is translated in such a way as to make this sub-sentence explicit it contains no other mention of truth . . . . . . If I say that it is true that "Shakespeare wrote Hamlet", or that the proposition "Shakespeare wrote Hamlet" is true, I am saying no more than that Shakespeare wrote Hamlet. Similarly, if I say that it is false that Shakespeare wrote the *Iliad*, I am saying no more than that Shakespeare did not write the *Iliad*. And this shows that the words *true* or *false* are not used to stand for anything but function in the sentence merely as assertion and negation signs. That is to say, truth and falsehood are not genuine concepts. Consequently, there can be no logical problem concerning the nature of truth (quoted from *Criterion of Truth* by A. J. Ayer, in 'Philosophy and Analysis', pp. 237-38).

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[4] *Language, Logic and Truth*, p. 35.

[5] F. R. Ramsay, *Foundations of Mathematics*, pp. 142-43.

This means that the so-called metalinguistic statement " 'Calcutta is a nasty city' is true" is identical with the statement of object-language "Calcutta is a nasty city"; for when I assert the latter what I *mean* is that "Calcutta is (truly or really) a nasty city" where the adverbs do not add anything to the sense or meaning of the statement "Calcutta is a nasty city." Kant also holds that the copula '*is*' in a categorical proposition is *intended* to stand for objectivity of the relation of a given mode of knowledge, as distinguished from the relation according to the laws of reproductive imagination, which has only seen subjective validity.[6] Hence 'truth' is not a metalinguistic predicate of a statement of the primary, object-language. On the other hand, 'English sentence' is such a genuine predicate in the metalinguistic statement, " 'Shakespeare wrote Hamlet' is an English sentence." Similarly, to assert "p is false" is the same as to assert the truth of the contradictory of p, which again is the same as to assert p', where ($'$) is the sign of negation. Such analysis shows that 'truth' and 'falsehood' are not metalinguistic predicates and they are not genuine predicates at all. They, being pseudo-concepts, cannot have any nature. They are nothing over and above *and*, in addition to, the meaning of the statement itself.

Though I admit that there is a large amount of truth in the above analysis, I am not sure whether in clearing the so-called 'linguistic muddle', the above thinkers are not involved in a greater muddle. I am ready to admit the contention that *to say* "Calcutta is a nasty city" (a statement of object-language) and *to say* " 'Calcutta is a nasty city' is true" (a statement of metalanguage), are one and the same. The two sayings or assertions are equivalent simply because the copula '*is*' is at once the sign of the relation of the predicate to the subject of the statement and also the sign of the assertion that the relation holds or is objective. In Kant's characteristic language, "It (the copula) is employed to distinguish the objective unity of the given representations from the subjective."[7] If the meaning of the statement is *what is said* in it, then it is also true that the 'meaning' and the "*intended* objectivity of the relation, *i.e.*, its truth" are synonymous. But there is a curious suggestion in the above theory of Prof. Ayer and Prof. Ramsay that there is nothing more of truth or falsehood in the verbal statement beyond saying such sub-sentence "p is true" or "p is false", where the values of 'p' are propositions. But do we not distinguish between asserting a statement and the statement that is asserted? The former is the subjective, mental element and the latter the objective element of the situation, even according to Prof. Ramsay. When I judge "Caesar was murdered" there is (*a*) my act of asserting the fact "Caesar being murdered" on the one hand, and there is the (*b*) proposition "Caesar was murdered" on the other. Ramsay takes the 'proposition' to be one of the objective factors like the fact "Caesar being murdered", while the act of asserting is in my mind.[8] When I assert "Calcutta is a nasty city", I have the conviction that Calcutta is really, truly, nasty. But in spite of my conviction or feeling of certainty the proposition "Calcutta is a nasty city" may not be *objectively* true, so that even though I *say* "Calcutta is a nasty city", I may be in error. There may always be a truth-claim in a judgment, but the claim may not be *admitted* by facts. Thus we must distinguish between 'the feeling of certainty' that is a mental factor and the 'truth' or 'falsity' which is a character of the *proposition* itself and hence is an objective factor. This 'objective truth' of the proposition, which is not merely 'the feeling of certainty', *i.e.*, mere *saying* "p is true", is not a pseudo-concept and the question of its nature cannot, therefore, be illegitimate and nonsensical. The language-philosopher himself admits this much; for if there is no objective truth or falsity as a property of the proposition, *in addition to* the mere saying that the proposition in question is true or false, there cannot be any question of varifying a statement. The genuine problem of verification indicates that mere saying that a proposition is true, does not make it so. Of course, it must be admitted that 'truth' and 'falsehood' cannot be genuine *predicates* of statements of an object-language. But though here the view of Profs. Ayer and Ramsay is true, yet the view gives a false suggestion. The view is true in what it *states* but wrong in what it *suggests*.

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[6] *Critique of Pure Reason*, p. 142.
[7] *Ibid.*

It immediately follows that those who hold that the statement " 'Calcutta is a nasty city' is true" is a *genuine* metalinguistic statement, are entirely wrong. Yet this erroneous view gives a true *suggestion* in holding that when I say "Calcutta is a nasty city", I am asserting something *about* 'Calcutta' and not something *about* the statement "Calcutta is a nasty city". The objective truth or falsehood of the statement "Calcutta is a nasty city" is something about the statement itself. Of course, it is not possible to make this suggestion explicit and to make a statement like " 'Calcutta is a nasty city' is true "; for that statement is equivalent to the statement "Calcutta is a nasty city". Yet though the suggestion cannot be explicitly *said*, it perhaps *shows* itself. Thus the metalinguist is right in what he suggests, but wrong in what he states.

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[8] "*Facts & Propositions*" in 'Foundations of Mathematics.'

If, then 'truth' is not a pseudo-concept and if it is something in addition to the mere saying that a statement is true, then the *meaning* of a statement is one thing and its truth (objective) is another. Hence the positivistic identification of the criterion of meaning and the criterion of truth or falsehood may not be unimpeachable. The positivists really give us a criterion of truth of empirical statements, *e.g*, verifiability in sense-experience, and not a criterion of their meanings. Had it been the case that the two criteria are identical, question-sentences could not be meaningful, for they are not descriptive statements that are true or false. And yet Prof. Ayer does not reject question-sentences as meaningless as we have already seen, even though he declares the prescriptive and emotive sentences as devoid of cognitive meaning and hence nonsensical.

A proposition, according to Dr. Johnson, is that which may possibly be asserted, *i.e.*, an *assertible.* When a proposition is just 'entertained' or taken up for consideration, it is devoid of assertion or denial. Such are statements of the relation of implication which provide bases or grounds of inference. The structure of implication is "If *p* then *q*", whereas the structure of inference is "*p*, therefore *q*". In the latter case '*p*' is to be asserted if there is to be inference, but in the former '*p*' is merely an assertible. In Logic we *consider* merely the relations of implication but we may not infer by using them. Thus we may entertain a proposition without asserting or denying it, so that the question of its truth or falsity does not arise. In such cases when a proposition is merely entertained, truth or falsity may be used as correct metalinguistic predicates, even though when a proposition is asserted or denied, the addition of truth or falsity as metalinguistic predicates does not say anything new. Suppose we say "The proposition '*p*' under consideration *may be* true." In such a modal proposition 'true' is a genuine metalinguistic predicate.

Further, when I ask the question whether the pen in your hand is filled with ink or not, I am entertaining a proposition without asserting it. For, I do not as yet know that the pen is filled. But to ask the question significantly, I must know at least the *possibility* of a pen's being filled with ink. Under such circumstances, when I ask the above question I may entertain or consider a proposition like "The pen is filled" without asserting its content. But then, as there is no assertion, there is obviously no question of truth or falsity. But it cannot be said that a proposition when entertained in the form of a question is, therefore, meaningless or nonsensical. That which is cognitively meaningless cannot be entertained or considered intellectually. To assert a proposition is to declare its truth and to deny it is to declare its falsity according to the linguistic philosophers and such truth/falsity is the proposition's meaning. But the above consideration shows that the meaning of a proposition can easily be distinguished from its truth value.

IV

The positivists may distinguish *'verifiability'* and *'actual verification'*. Thus even when a statement is not actually verified with reference to sense-experience, it may remain 'verifiable'. It may now be said that 'verifiability' is the *meaning*-criterion and 'actual verification' is the *truth*-criterion. But it must be remembered that the notion of 'verifiability' presupposes the notion of 'actual verification'. For example, the statement "There are mountains on the dark face of the moon" is logically *verifiable* by sense-experience and hence is meaningful; but it has not yet been verified or falsified *actually* and there is possibly no chance of verifying it in near future. This means that we do not as yet *know* whether the statement is true or false; but it cannot mean that the statement itself is neither true, nor false. For in that case it will not be a meaningful statement or proposition at all, but a series of nonsensical sounds or marks. It is, therefore, either true or false, though there is, as yet, no evidence, conclusive or inconclusive, for or against it. Hence, the positivistic theory that we need not distinguish the question of the *nature of truth* and that of *the test or knowing the truth* of a statement, passes my comprehension. According to logical empiricism, the interesting question about truth—that which people have implicitly in mind when they ask "what is truth?"—has to do with how a statement can be *known* to be true. But can we apply a criterion of truth without covertly assuming what is truth? Any criterion involves a standard and the standard of comparison with reference to true or false statements must be determined by our apprehension of truth or falsity. We can, therefore, go the other way and hold that when the positivist is asking his interesting question "How a proposition is known to be true?" he has the question "what is truth?" in his mind, in an undeveloped form.

Moritz Schlick makes a distinction between meaning and truth, though the two are inseparably connected, according to him. "I cannot find out the truth without knowing the meaning, and if I know the meaning of the proposition I shall at least know the beginning of some path that will lead to the discovery of the truth or falsity of the proposition even if I am unable to find it at present."[9] Sometimes we may know the meaning of a statement easily and sometimes we may not know it at all as in 'philosophical statements.' The criterion to be applied in difficult cases, will always be, according to Schlick, as follows: "We know the meaning of a proposition when we are able to indicate exactly the circumstances under which it would be true (or, what amounts to the same, the circumstances which would make it false)."[10] If a meaning is to be made *clear* the description of these circumstances will be absolutely necessary. Afterwards we may look for the actual circumstances in the world and decide whether they make our proposition true or false. Hence, the first step, according to M. Schlick, is to know the *verifiability* of a statement, *i.e.*, its meaning and the next step is *actual verification*, *i.e.*, knowing the truth or falsity of the statement in question. Thus M. Schlick appears to hold that if we are to make a meaning *clear* we are to know its verifiability. He probably admits that there may be a vague, popular, undeveloped meaning of a statement, which is only to be made clear, scientific and developed by explicating its verifiability, *i.e.*, by indicating the circumstances under which it would be true. But in that case, each and every meaning will not necessarily imply its 'verifiability'; for a statement may have at least an undeveloped meaning independently of verification. Further, when we just know a statement to be *verifiable* we also know it to be "either true or false objectively," though we can decide the issue, only afterwards, by actual verification. Thus the problems of the nature and of the test of truth are to be distinguished. Verification, is the examination of the truth of a statement and not of its meaning. A meaning may be verified in respect to its truth or falsity or in other words, what is verified is the meaning's truth or falsity. But verification is not the *examination* of the meaning itself or an analysis of the significance. When I verify certain figures, I compare the given figures with a standard, not in order to know the figures themselves, but in order to know whether they are correct figures or not. Hence, the criterion of verification will only be a criterion of truth and not of meaning.

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[9] Moritz Schlick, *Future of Philosophy*.
[10] *Ibid.*

V

Let us admit for the time being that the meaning of a statement is to be determined by its verifiability or falsifiability (or at least by its partial confirmability or non-confirmability) through sense-experience. This will imply that to show that an empirical statement is meaningful or significant we must at least be able to state the method of its verification or falsification, though it need not be verified actually. Such a statement of the method of verification will take the form "If you are at such and such place, under such and such circumstance, you will have (or not have) such and such sense-data." Now, such a statement of the method of verification (or falsification) is surely meaningful or significant and hence we are to ask what is its possible method of verification or falsification. This will either lead to indefinite regress or we are to admit at least one statement that is meaningful even without its method of verification being stated or shown.

Again the verification principle will entail that if the method of verification of two or more statements be same, the statements themselves will have the same or equivalent significance. "John is taller than Bill" and "Bill is shorter than John" are verified in the same way, for the verification of one *is* the verification of the other. Even if this is true in some cases it is not so in all cases. For consider two statements like "This table is brown" and "That table is black." The method of verifying or falsifying both the statements is the same, *i.e.*, looking at the tables with normal eyes in good illumination. But nobody will say that the two statements mean the very same thing. They are not equivalent. Similarly, the statements "Grapes are sour" and "Oranges are sweet." Now, it may be said by the logical positivists that the criterion of verifiability determines the general notion of meaningfulness but does not determine the particular meaning of a particular statement. Hence though the two statements "Oranges are sweet" and "Grapes are sour" have different meanings, yet because both of them are meaningful and significant they have 'meaning' in common and the principle of verification determines this 'meaning' in general and not the particular meanings of particular statements themselves. The positivist can say that only those empirical statements that are verifiable or falsifiable have meaning in general and those that are not are nonsensical. But what is the particular meaning of any statement cannot be determined by the principle of verification.

If now we say that the principle of verification determines the "meaning in general" and not the particular meanings of particular statements we are to admit that there is a relevant *concept* of "meaning in general" over and above and in addition to the meaningful or significant propositions themselves. We cannot say that it is a pseudo-concept or that 'meaning' is equal to the 'meaningful statements' themselves. But will the positivists be ready to admit this? If by 'meaning' they mean only 'meaningful statements themselves,' meaning is not determined by verification principle. Again if by 'meaning' they mean the relevant concept of 'meaning in general,' then their definition of 'meaning in general' in terms of verifiability will be a prescriptive definition, an arbitrary proposal. For we can never be sure that the very wide, pervasive, concept of 'meaning in general' with reference to statements and question-sentences, must in all cases be understood in terms of verification.

It is therefore clear that the positivistic criterion is not a criterion of the particular meaning of particular statements, but of 'meaning-in-general' and the latter, therefore, is not a pseudo-concept. Now if the verification principle implies 'meaning-in-general' and if this meaning is the same as the truth-value of empirical statements, as the positivists seem to hold, how can 'truth-in-general' be a pseudo-concept and the problem of its nature, a pseudo-problem? This 'truth-value in general' must be something more than the true or false statements themselves. But the positivists hold explicitly that there is nothing called 'truth in general' as a property of statements and similarly there is nothing called 'falsity in general.' Truth according to them, is equivalent to true statements and falsity to false ones. If this be so, 'meaning' must also be equivalent to 'meaningful statements,' for, cognitive meaning and truth-condition of statements are synonymous, according to them. But in that case 'meaning-in-general' is a pseudo-concept and the criterion of verification must determine the *particular* meanings of the different empirical statements. That the criterion cannot do this has already been shown. This leads to the conclusion that either *meaning* is to be distinguished from truth-condition of statements or truth is a genuine concept, the problem of the nature of which is not a pseudo-problem.

A FRAGMENT ON THE DIVINE RIGHT OF KINGS

PROFESSOR RAGHUBIR CHAKRAVARTI

The theory of Divine Origin is probably the oldest explanation of the emergence of the State. It was believed by the Egyptians,[1] Babylonians,[2] Jews,[3] ancient Persians,[4] Indians,[5] Japanese[6] and the peoples of the medieval Europe.[7] It has two aspects, which are distinct but very closely interrelated to be clearly distinguished. On the one hand, it implies that the State is the creation of God. The Will of God is the ultimate cause of political society. The State exists to carry out His Will and it continues during the pleasure of God. This aspect of the theory is a part of the general theory of the divine creation of earth.

On the other hand, the theory of Divine Origin leads to the concept of the Divine Right of Kings. Not only is the State a Divine institution, it is also ruled by a King who acts as the agent and the representative of God. This aspect of the theory was fully developed during the sixteenth and seventeenth centuries in Europe.

Both these aspects are included in any discussion concerning the Divinity and the State. In fact, the theory of Divine Right is the logical completion of the theory of Divine Origin. As such, the present discussions will concentrate itself in the Divine Right of Kings.

It is rather difficult to create an interest in a doctrine which has long been repudiated as absurd. Professor Carpenter describes the doctrine "as a mere weariness of the flesh, and in no degree worth reading".[8] No one believes in it today not even the ruling monarchs. Even in Britain, where the doctrine received great deal of theoretical support, it has been relegated to the dustbin of history after the

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[1] Durant, W , *The Story of Civilization : Our Oriental Heritage*, New York (1942), p. 201.

[2] Durant, W., *ibid.*, pp. 232-33.

[3] *The First Book of Samuel.* Extracts in Edman, I : *Fountainheads of Freedom*, New York (1941), pp. 195-96.

[4] Durant, W., *ibid.*, p. 361.

[5] Ghoshal, U. N., *A History of Hindu Political Theories*, Calcutta (1923), p. 42, esp. pp. 273-78.

[6] Gunther, J., *Inside Asia*, London (1939), p. 13.

[7] Gierke, O., *Political Theories of the Middle Age.*, Cambridge (1927). p. 30.

[8] Introduction to 'John Locke's *Two Treatises on Civil Government*, Everyman's new edition.

Glorious Revolution of 1688. Ruling monarchs of our time[9] even the Mikado and Haile Selassie, are very much democratised. And they continue to rule because of the popular consent. They exist because they do neither believe in nor act according to the Divine Right of Kings.

Nevertheless, this doctrine at one time played an important role in political history and acted "as a transition stage between medieval and modern politics".[10] Therefore it deserves a consideration on its own merit.

Professor Mac Lwain outlines five principal features of the theory. Under it, the monarch is not in person divine, but he does enjoy and exercise a personal right to rule in virtue of his birth alone. *Secondly,* all kings must be kings *de jure. De facto* King can have no legitimate authority. *Thirdly,* the Kings are never the creatures of the people. *Fourthly,* their authority does not come from the people's law. As the Kings are not the creation of the people their authority can never be limited by them. *Finally,* their powers are not derived from their predecessors in the royal office but from their ancestors alone.[11]

In a similar way, Dr. Figgis also extracts four principal tenets of the theory. According to him, this theory leads to the following propositions: (1) Monarchy is a divinely ordained institution, (2) Hereditary right is indefeasible, (3) Kings are accountable to God alone, and (4) Non-resistance and passive obedience are enjoined by God. He adds further "Under any circumstances resistance to a King is a sin, and ensures damnation".[12]

Monarchy is thus made the only legitimate form of Government, in which Divine creation and hereditary succession thereto play important part.

This peculiar theory is developed in varying form in the writings of James I of England and in the patriarchal theory of Sir Robert Filmer. James I sets out this doctrine in all his political writings.[13] But he completes it in every detail in "The Law of Free Monarchies"[14] (1598). This work is really a source book on the theory of Divine Right of Kings.

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[9] There are at present 28 monarchies in the world.

[10] Figgis, J.N., *The Divine Right of Kings*, Cambridge (1914), Second edition, p. 258.

[11] Mcl Lwain, C. H , *Divine Right of Kings* in the ENCYCLOPAEDIA OF THE SOCIAL SCIENCES, Vol. 5, p, 176.

[12] Figgis, J.N., *op. cit.*, pp. 5-6.

[13] *The Political Works of James I*, ed. by C. H. Mcl Lwain, Harvard (1918).

James I is frequently quoted by the 'learned' Sir Robert Filmer in his *Patriarcha* or *The Natural Power of Kings* (1680), a curious royalist pamphlet of 141 pages. It was written sometime ago as Filmer died in 1653. This work enjoyed a posthumous fame[14] because it was refuted in detail by Sidney in his *Discourses concerning Government* (1698) and Locke in his first Treatise on Civil Government, which is an *Essay concerning Certain False Principles* (1690).

An inquiry into the historical necessity of such line of argument would be the 'best introduction to the analysis of their ideas.

This particular theory was born of an age when religion and politics were mixed up and even political arguments to become convincing had to be expressed in religious terms.[15] It was an age when the Popes were pretending to usurp all religious and civil power on ground of divine origin of their own authority. Secular power was then reduced to a new entity. The Emperor and the Kings were to become subordinate to the Pope.

Naturally if this claim of the Pope was to be met, a rival dogma of equal statute was needed for a secular authority.[16] So the Protestant monarchs set forth a spacious argument that even their authority, equally like that of the Popes, had a Divine origin and sanction. Strange historical setting made such an argument not only necessary but even holy. Monarchs just took over the argument of the Popes and employed it for securing the independence of the civil authority from ecclesiastical pretensions.

As Dr. Figgis remarks: "The claim, advanced alike in medieval and in modern times, that Emperors and Kings hold of God alone—or, in the words of our Prayer-Book that God is 'the King of Kings and Lord of Lords' is nothing but the assertion that civil society has an inherent right to exist, apart from its ecclesiastical utility. This was denied by the Popes and Presbyterians".[17]

In this context, this doctrine became one of the most potent factors in the development of the modern theory of the State. It helped the secular governments to free themselves from ecclesiastical control. It became an important part of "the armoury of the national Kings, who rose to power at the close of the Middle Ages".[18] His

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[14] Sabine G.H., *A History of Political Theory*, p. 512.

[15] Figgis, J. N., *op. cit*, p. 11.

[16] Trevelyan, G. M., *England Under the Stuarts*, London (1949), Twenty-first edition, p. 86.

[17] Figgis, J. N., *Political Thought in the Sixteenth Century* in THE CAMBRIDGE MODERN HISTORY. New York (1905), Vol. 3, p. 751.

[18] Chew, H. M., *King James I* in "The Social & Political Ideas of Some Great Thinkers of the Sixteenth and Seventeenth Centuries" ed. by Hearnshaw, F. J. C. London 1926). p. 105

Chew remarks: "It removed the last effective check upon the authority of the new national monarch, and left them for the first time fully 'sovereign' ".[19] It was this theory which helped the ambitious monarchs in co-operation with the rising middle classes to settle accounts with cosmopolitan ecclesiasticism and local feudalism. Thereby it helped them to pave the way for the rise of the modern national state. And that, indeed, is its greatest historical significance.

In fact both James I and Filmer were contending against the contemporary ecclesiastical pretensions.

James I bases his argument mainly on Scriptures, and partly on the laws of Scotland and partly on the Law of Nature. His theory, as noted before, is elaborated in all his political writings. In Basilikan Daron he urges his son, Prince Henry "to love God, 'first for that he made 'him a man, and next, for that he made 'him' a little God to sit on his Throne and rule over other men".[20] In his address to the Parliament March 19th, 1603, he makes a fantastic claim. "I am the Husband, and the whole Isle is my lawful Wife, I am the Head, and it is my Body. I am the Shephered and it is my flocke".[21] He remarks in another place: "Kings are the breathing Images of God upon earth".[22].

What is more, they "are not only God's upon earth, and sit upon God's throne, but even by God himself they are called Gods".[23].

James I ultimately traces his rights to the conquest made by his ancestor William I. By virtue of that, he has inherited an absolute ownership. It is even proved by Scripture to be an irrevocable act. Consequently, it involves a corresponding duty of non-resistance in his subjects.

He derives a lesson from Scottish history that King possesses supreme legislative and administrative authority. He is above the law, as law is his own creation. In addition, he has the power of Life and Death over every subject. According to him, King may, like God, make and unmake his subjects (he has the power of raising and casting doom: of life and death). Thus, even liberty is dependent on his sweet will. In relation to their King, subjects have duties, but no rights. Law of Nature makes the king a natural father of his subjects. Being head of the commonwealth he cannot be destroyed without the destruction of the body politic.

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[19] Chew, H. M.. *ibid.*, p. 106.

[20] *The Political Works*, p. 12.

[21] *Ibid.*, p. 272.

[22] "A Defence of the Rights of Kings" in *The Political Works*, p. 248.

[23] "Address at the House of Lords and House of Commons," March 21st 1609, in *The Political Works*, p. 307.

What is more, he does not even recognise the independence or supremacy of the assembly. Even the parliament and decrees depend on his will.

It is but a logical corollary from above that people can never have a right of resistance, not even against an evil king. Even if a King is evil, he is still a curse sent by God. The people can only pray to Him so that the curse is taken away. Well and good, He cleverly omits a significant point whether an evil 'king' will ever allow such prayer in mass for his own doom. It is not feasible, if the king is evil to the core. Of course, there is still the possibility of silent prayer in agony of individual heart.

The king, maintains James I, does not give up his absolute power even by coronation oath. As such an oath is taken to God alone, he is responsible to Him only. Moreover, the royal authority is made so sacred that it is sinful to question. He declares "That which concerns the mystery of the king's power, is not lawful to the disputed; for that is to wade into the weakness of princes, and to take the mystical reverence, that belongs unto them that sit in the Throne of God."[24] In short, the quality of a king is a supernatural stigma, not to be explained and not to be debated.

Most of the ideas of James I were developed further by Sir Robert Filmer.

Unlike James I who relies too much on Scriptures Filmer relies on the history of Israelites and other races to strengthen his case of patriarchal origin of kingship.

In three chapters, Patriarcha lays down that the first kings are fathers of families, that it is unnatural for people to govern or choose governors and that positive laws do not infringe the natural and fatherly power of kings. Filmer is convinced that natural liberty is dangerous. He contradicts Rousseau and holds that no man is born free. All kings, he believes, are either fathers of their people or heirs of such fathers.

Like James I, Filmer maintains that as King is the source of laws, he is above them. Even the liberty of Parliament depends on his grace. King alone makes laws in Parliament, and governs both the Houses by himself.

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[24] Speech in the Star Chamber, June 20th 1616, *The Political Works* p. 333

Filmer maintains: "It is true, all kings be not the Natural Parents of their Subjects, yet they all either are, or are to be reputed the next Heirs to those first Progenitors, who were at first the Natural Parents of the whole People, and in their Right succeed to the Exercise of Supreme Jurisdiction." [25] As such, King's power is as natural as the authority of parents over children. He points out: "If we compare the Natural Rights of a Father with those of a King, we find them all one, without any differences at all but in the Latitude or Extent of them." [26] Like the father of a family, a King rules by the sweet will. Kings are, then, the natural parents of the people. And they rule by heredity.

"This whole theory", comments Bertrand Russel, "seems to a modern mind so fantastic that it is hard to believe it was seriously maintained." [27] Yet it enjcyed widest acceptance in his own country. It became most popular as a reaction to the execution of Charles I. [28] It served the purpose of a defence mechanism for the royalists. But, even, there the arbitrary rule of Charles II and James II pushed it to the limbo. With the accession of William and Mary by popular consent and increasing popularity of the doctrine of social contract, the theory of Divine Right began to disintegrate as a political force.

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[25] Filmer, R., *Patriarcha or The Natural Power of Kings*, London (1680), p. 19.
[26] Filmer R., *ibid*,. p. 24.
[27] Russell, B., *History of Western Philosophy*, London (1946), p. 644.
[28] Mac Lwain, C.H., *op. cit.*, p. 176.

Reviews and Notices of Books

Indian Labour Code (3rd Edition). By S. N. Bose, Eastern Law House (Private) Ltd., P. 13 Ganesh Chunder Avenue, Calcutta. Price Rs. 25.

Young democracies have usually been noted for their energy and drive in matters of legislation. The ordinary citizen often finds it rather bewildering to follow the innumerable laws and regulations passed by the legislatures of these countries. In India also, the growth in labour and industrial legislation has been continuous since 1947, and those whose interests are vitally affected by such legislations as also others who want to study the subject from the academic aspect would feel grateful to Mr. Bose for an up-to-date edition of his well-known book. The development of labour legislation from 1850 to the end of the year 1956 can be traced by any one who would take care to glance through the pages of this book. The utility of the book has been greatly increased through the inclusion in the Appendices of the provisions of the collective Agreements made by the Trade unions and the more enlightened employers of this country. Students of labour problems will find this section to be a very useful source for an analysis of the various ways in which a satisfactory labour-capital relationship is slowly being evolved in India. The Index to the Statutory definitions of expressions like 'Workman', 'Workers', 'Employees', 'Wages' etc. given in the different Acts, Ordinances, Rules and Regulations would show the bewildering variety of interpretations put on these common expressions. There is a need for standardising these definitions so as to eliminate many possibilities of litigation in the courts.

Besides labour laws, the book contains several pieces of legislation, which though important, can be assumed to belong to the sphere of labour legislation only indirectly. A better course for the author would be to separate these sections and publish another volume dealing with industrial legislation. This would reduce the bulk of the present book, and this might enable the Publishers to bring down the price to a level that could be afforded by a large number of people interested in the study of labour legislation.

S. N. Sen

Kavyalakṣaṇa of Dandin with the commentary of Ratnaśrījñāna. Edited by Prof. Anantalal Thakur of Mithila Institute and Prof. Upendra Jha of Chandradhari Mithila College, Darbhanga. Published by the Director of Mithila Institute of Post-Graduate Studies and Research in Sanskrit Learning, Darbhanga. Pp. 310. Price Rs. 15.

Kavyalakṣaṇa is widely known as Kavyādarśa. It is an early work on Rhetoric. It occupies an important place in the universe of Rhetoric. It is a truism that the views of Daṇḍin and ancient rhetoricians have been antiquated. Still they contribute much toward the development of modern views. A student of the history of rhetoric cannot do without the work under review.

The commentary of Ratnaśrījñāna was unknown to many students of rhetorical literature. It sees the light of day under the auspices of Mithila Institute. The editors have spared no pains to edit it carefully. The introduction of this work has been scholarly written. It is full of valuable information. Ratnaśri's commentary will be of much use to a beginner. The language of this commentary is very simple. The commentator has tried his best to give a clear exposition of the text. Moreover, the commentary contains a large number of verses from such works as have not as yet reached our hands. Hence, both scholars and learners will derive benefit from its study. Moreover, this commentary reminds us of the glorious past of India, *viz.*, the leadership of India in the cultural field outside India. The author of this commentary is a Ceylonese monk and student of Indian University.

J. B.

Ourselves

UNIVERSITY LECTURES

During the month of March a large number of Extension Lectures was delivered in the University by eminent scholars and educationists. Sri Jogeshchandra Bagal, Vidyasagar Lecturer of the University for 1958, delivered a course of five lectures in Bengali on different aspects of Vidyasagar's character, personality, and achievements in the field of educational and social reforms. Dr. C. G. Pandit, Director of Indian Council of Medical Research and Lady Brahmachari Reader in Medicine of this University for 1957, delivered a course of three lectures on "Anlhropod borne Virus Diseases". Sri Gopal Halder, Principal Khudiram Basu Memorial Lecturer for 1957, delivered a course of two lectures on "Adhunik Sahityer Adhunikata". Dr. Julius Germanus, Professor of Arabic Studies at the University of Budapest, delivered two lectures on Arabic and Islamic Studies. Dr. Stanley P. Reimann, Director of the Institute for Cancer Research, Philadelphia, U.S.A., delivered a course of three lectures on "Causes of Cancer". Dr. Ernst Waldschmidt, Head of the Department of Indological Studies at Goettingen University and President of the German Oriental Society, delivered a lecture on "Progress of Buddhistic Studies in Germany".

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FELICITATIONS TO PROFESSOR SISIRKUMAR MITRA AND PROFESSOR SATYENDRANATH BASU.

The University of Calcutta has been greatly honoured by the election of Professor Sisirkumar Mitra and Professor Satyendranath Basu to the Fellowships of Royal Society in London. Both the Professors are distinguished products of this University and they have done their research work as Professors here. The Vice-Chancellor and Syndicate met them in a tea-party and congratulated them on their well-deserved recognition. We wish both Professor Mitra and Professor Basu long years of good health and useful activities. In scientific research, Bengal, and particularly the University of Calcutta, has done pioneer work, and we feel happy to remember on this occasion as fellows of Royal Society, Acharyya Jagadishchandra Basu, Professor Meghnad Saha and Professor Prasantachandra Mahalanabis, who were eminent predecessors of Professor Mitra and Professor Basu.

Notifications

UNIVERSITY OF CALCUTTA

Notification

No. C/3487/49 (Affl.)

It is hereby notified for general information that the Berhampore Textile Institute has been affiliated in Textile Technology to the B.Sc.(Tech.) standard from the session 1958-59 with permission to present candidates for the B.Sc. (Tech.) Part I Examination in 1960 and not earlier and for the B.Sc. (Tech.) Part II in 1961 and not earlier.

SENATE HOUSE,
The................, 1958.

J. C. MUKHERJEE,
For *Registrar.*

UNIVERSITY OF CALCUTTA

Notification

No. C/3392/143 (Affl.)

It is hereby notified for general information that the Ramkrishna Mission Sikshan Mandir, Belur, P. O. Belurmath, Dist. Howrah has been affiliated to the B.T. standard in the following subjects with effect from the session 1958-59 :—

(1) Principles of Education including Education Psychology.
(2) History of Education.
(3) General Methods, School Organisation of School Hygiene.
(4) Contents and Methods of Teaching in—
    (*a*) English.
    (*b*) Bengali.
    (*c*) Sanskrit.
    (*d*) History.
    (*e*) Mathematics.
    (*f*) Geography.
    (*g*) Hygiene.
    (*h*) Arts and Crafts.
    (*i*) Physical Sciences.
    (*j*) Biological Sciences.
    (*k*) Primary and Infant School Subjects.

(5) Essay and Composition (in Bengali or English) and in the following additional subjects—

    (*a*) Mental and Educational Measurements.
    (*b*) Mental Hygiene and Child Guidance.
    (*c*) Methods and Organisation in Nursery Schools, Kindergartens and Montessori Schools.

SENATE HOUSE, CALCUTTA,
The................, 1958.

D. CHAKRAVARTI,
Registrar.

UNIVERSITY OF CALCUTTA

Notification

No. C/3418/115 (Affl.)

It is hereby notified for general information that in extension of the affiliation already granted, the Maharajadhiraj Uday Chand College for Women, Burdwan has been affiliated to the B.A. Honours standard, in English and Economics with effect from the session 1958-59, *i.e.*, with permission to present candidates in the above-named subjects at the examinations mentioned, from 1960 and not earlier.

D. CHAKRAVARTI,
Registrar.

UNIVERSITY OF CALCUTTA

Notification

No. C/3421/106 (Affl.)

It is hereby notified for general information that in extension of the affiliation already granted, the Kharagpur College, Midnapore has been affiliated in (*i*) Junior Military Course to the I.A. and I.Sc. standards, (*ii*) History and Economics to the B.A. Honours standard with effect from the session 1958-59, *i.e.*, with permission to present candidates in the above-named subjects at the examinations mentioned, from 1960 and not earlier.

D. CHAKRAVARTI,
Registrar.

UNIVERSITY OF CALCUTTA

Notification

No. C/3429/142 (Affl.)

It is hereby notified for general information that the Teachers' Training College, Kalyani, District Nadia has been affiliated to the B.T. standard, with effect from the session 1958-59 in the following subjects :—

(1) Principles of Education including Educational Psychology.
(2) History of Education.
(3) General Methods, School Organisations and School Hygiene.
(4) Contents and Methods of Teaching—
    (*a*) English.
    (*b*) Bengali.
    (*c*) Sanskrit.
    (*d*) History.
    (*e*) Mathematics.
    (*f*) Geography.
    (*g*) Hygiene.
    (*h*) Arts and Crafts.
    (*i*) Primary and Infant School Subjects.
(5) Essay and Composition and in the following additional subjects :—
    (*a*) Mental and Educational Measurements.
    (*b*) Mental Hygiene and Child Guidance.
    (*c*) Methods and Organisation in Nursery Schools and Montessori Schools.

SENATE HOUSE, CALCUTTA,
The.................., 1958.

D. CHAKRAVARTI,
Registrar.

UNIVERSITY OF CALCUTTA

Notification

No. C/3405/50 (Affl.)

It is hereby notified for general information that in extension of the affiliation already granted, the Uttarpara Raja Pearymohan College has been affiliated to the B.Com. standard in English, Bengali, Accountancy, Commercial Law, Commercial Geography, General Economics, Indian Economics, Business Organisation, Advanced Accountancy, Auditing, Banking and Currency with effect from the session 1958-59, *i.e.*, with permission to present candidates in the above-named subjects at the examination mentioned, from 1960 and not earlier.

SENATE HOUSE, CALCUTTA,
The 25th April, 1958.

D. CHAKRAVARTI,
Registrar.

UNIVERSITY OF CALCUTTA

Notification

No. C/3397/27 (Affl.)

It is hereby notified for general information that in extension of the affiliation already granted, the Vidyasagar College, Calcutta has been affiliated to the B.A. and B.Sc. Honours standard, in Geography with effect from the session 1958-59, *i.e.*, with permission to present candidates in the above-named subjects at the examination mentioned, from 1960 and not earlier.

SENATE HOUSE, CALCUTTA,
The 24*th April*, 1958.

D. CHAKRAVARTI,
Registrar.

UNIVERSITY OF CALCUTTA

Notification

No. C/3385/18 (Affl.)

It is hereby notified for general information that in extension of the affiliation already granted, the St. Xavier's College, Calcutta, has been affiliated to the B.A. and B.Sc. standard, in Statistics and History to the B.A. Honours standard with effect from the session 1958-59, *i.e.*, with permission to present candidates in the above-named subjects at the examinations mentioned, from 1960 and not earlier.

SENATE HOUSE, CALCUTTA,
The 23*rd April*, 1958.

D. CHAKRAVARTI,
Registrar.

UNIVERSITY OF CALCUTTA

Notification

No. C/3380/18 (Affl.)

It is hereby notified for general information that in extension of the affiliation already granted, the Central Calcutta College has been affiliated to the Intermediate and B.A. (Pass) standard, in Alternative English with effect from the session 1958-59, *i.e.*, with permission to present candidates in the above-named subjects at the examinations mentioned, from 1960 and not earlier.

SENATE HOUSE, CALCUTTA,
The 23*rd April*, 1958.

D. CHAKRAVARTI,
Registrar.

UNIVERSITY OF CALCUTTA

Notification

No. C/3374/141 (Affl.)

It is hereby notified for general information that in extension of the affiliation already granted, the Nabagram Hiralal Pal College has been affiliated to the Intermediate standard, in Sanskrit with effect from the session 1958-59, *i.e.*, with permission to present candidates in the above-named subjects at the examinations mentioned, from 1960 and not earlier.

SENATE HOUSE, CALCUTTA,
The 23*rd April*, 1958.

D. CHAKRAVARTI,
Registrar.

UNIVERSITY OF CALCUTTA

Notification

No. C/3435/59 (Affl.)

It is hereby notified for general information that in extension of the affiliation already granted, the Berhampore Girls' College has been affiliated to the B.A. Honours standard, in English with effect from the session 1958-59, *i.e.*, with permission to present candidates in the above-named subjects at the examinations mentioned, from 1960 and not earlier.

SENATE HOUSE, CALCUTTA,
The 30th April, 1958.

J. C. MUKHERJEE
for Registrar.

ALIGARH MUSLIM UNIVERSITY

Notice No. 40

The undermentioned candidates who were found using unfair means at the Supplementary and Compartmental Examinations of 1957 be debarred from appearing at all examinations of the University up to and inclusive of the examination noted against each :—

Examination	Roll No.	Enrolment No.	Name	Father or Guardian's name and address.	Debarred up to and inclusive of the examinations to be held in the year noted against each.
(1) Inter Science	654	D 7640	Faiyaz Mohd. Khan.	Riaz Mohd. Khan Tan Tan Para, Aligarh.	1959
(2) Inter Science	722	D 9091	Shameem Waris	Kr. Gulam Waris Ali Khan, Dharampur Castle, Marris Road, Aligarh.	1959
(3) B.A. ..	190	C 2841	Kishwar Ghani	M. Abdul Ghani, Ghani Manzil, Badar Bagh, Aligarh.	1959
(4) B.A. ..	436	B 2141	Irfan Askari Majidi.	Asghari Begum, Nai Hasti, Aligarh.	1959
(5) B.Sc. ..	644	D 814	Mohd. Akhtar Saeed.	Saeed Ahmad, 31, Warwick Row, Meerut Cantt.	1959
(6) LL.B. Previous	218	C 4849	Brij Pal Singh	Nim Karan Singh, Karan Bhawan, Kothi Lankram, Aligarh.	1960
(7) High School	1411	E 6239	Tahseen Ahmad Khan.	Yasin Khan, Town Marehra, Moh. Ghafoorganj, Dist. Etah. U. P.	1959

The 19th October, 1957.

Illegible,
Registrar.

UNIVERSITY OF GAUHATI

Orders passed by the Executive Council by Resolution No. 8, dated the 21st September, 1957 with regard to the cases of candidates who used unfair means in the I.A., I.Sc. and I.Com. Examinations, 1957.

The examinations of the undermentioned candidates have been cancelled and they have been debarred from appearing at any Examination of this University until 1959.

Sl.	Roll and No.	Names of the candidates	Name of the college
		I.A. Examination	
1	Gau. N.T. 36	Imotaba Aier	Teacher Private
2	Karim. 21	Satyaranjan Dey	Karimganj College, Karimganj.
3	Karim. 91	Sudhirranjan Das	Do.
4	Now. N.T. 1	Khagendranath Barah	Teacher Private
5	Shi. 93	Melshon Roy Pakem	St. Anthony's College
6	Shi. 216	Sukheshchandra Debray	Do.
7	Sib. 78	Chidananda Goswami	Sibsagar College
8	Sil. 73	Md. Safiqur Rahman Barbhuiya	G. C. College, Silchar
		I.Sc. Examination	
1	Gau. N. 48	Surendra Nath Sharma	Cotton College, Gauhati
2	Jor. 108	Ajit Kumar Borah	J. B. College, Jorhat
3	Karim. 1	Amarendra Sen	Karimganj College.
4	Sil. N. 9	Subodhchandra Chaudhuri	G. C. College, Silchar
5	Tez. 53	Sunilchandra Das	Darrang College, Tezpur
		I.Com. Examination	
1	Gau. 31	Sudhangshubimal Chaudhuri	University Classes, Jalukbari.
2	Gau. N. 17	Latikaranjan Ray	Do.

UNIVERSITY OF GAUHATI

Orders passed by the Executive Council by Resolution No. 14 dated, the 21st September, 1957, with regard to the cases of candidates who used unfair means in the B.A. and B.Sc. Examinations, 1957.

The examinations of the undermentioned candidates have been cancelled and they have been debarred from appearing at any examination of this University until 1959.

Sl. No.	Roll and No.	Names of the candidates	Name of the college
		B.A. Examination	
1	Gau. N. 14	R. K. Ambarish Singh	B. Borooah College, Gauhati
2	Now. 82	Ramesh Chandra Bezbaruah	Nowgong College
3	Sib. 30	Md. Lutfur Rahman	Sibsagar College
		B.Sc. Examination	
1	Gau. N. 8	Sushanta Chakrabarti	Cotton College

UNIVERSITY OF DELHI

The undermentioned candidate for the Examination for the Degree of B.Ch.E (Compartment) held in September, 1957, who was proved to the satisfaction of the Executive Council to have resorted to unfair means in the course of the examination has been disqualified from passing the examination held in September, 1957.

Roll No.	Name of candidate	Father's name	College
103 (Enrol No. DP. 489).	Gurdev Singh	S. Pritam Singh	Delhi Polytechnic

S. K. SARKAR,
For *Registrar*,

Delhi, the 18th October, 1957.

ANDHRA UNIVERSITY

PROCEEDINGS OF THE SYNDICATE

No. S2-9373/57. *Waltair, the* 11*th October,* 1957.
Encl. :
Subject—Misconduct at University Examinations, September, 1957.
Ref.—Syndicate Resolution, dated the 21st September, 1957.

ORDER

The results of the following candidates who have been found guilty of resorting to unfair means at the University Examinations held in September, 1957 are cancelled and they are debarred from appearing for any of the University Examinations for the periods noted against each.

Sl. No.	Name of the candidates	Examination	Regd. No.	Period of Rustication
1	Katneni Parandhamayya	Matriculation	206	Debarred for one year and permitted to sit for the University Examination to be held in September, 1958 or thereafter.
2	Singaraju Ramamma	Do.	890	Do.
3	Pennaru Suryanarayana	Do.	899	Do.
4	Yadlapalli Raghava Rao	Intermediate	3942	Do.
5	C. Narayana Reddi	Do.	4519	Do.
6	Kuchipudi Ratnasekhara Rao.	Do.	5545	Do.
7	Jampala Pitchayya	Do.	6076	Do.
8	Suggu Prabhakara Rao	Do.	6795	Do.
9	Damaraju Sankaram	Do.	7124	Do.

By order,

K. V. GOPALASWAMY,
Registrar.

UNIVERSITY OF RAJASTHAN

Notification

The following candidate had resorted to the use of unfair means at the High School Examination of 1955 and had mishandled the Invigilator who had detected him. A case under Section 323 I. P. C. had been registered against him and he has been convicted by the Court. The examination of the candidate has now been cancelled and he had further been debarred from appearing at any examination of the University to be held before 1960.

Roll No.	Name of the candidate and Father's name.	School
16374	Surender Prakash Sukhija S/o. Mohri Lal Sukhija.	Government High School, Sri Ganganagar.

K. L. VARMA,
Registrar.

The 15*th November,* 1957.

ANDHRA UNIVERSITY

PROCEEDINGS OF THE SYNDICATE

No. S2-9373-57. *Waltair, October* 31, 1957.

Encl. 1 statement.
Subject—Misconduct at University Examinations, September, 1957.
Ref.—Syndicate Resolution, dated the 21st October, 1957.

ORDER

The results of the following candidates who have been found guilty of resorting to unfair means at the University Examinations held in September, 1957 are cancelled and they are debarred from appearing for any of the University Examinations for the periods noted against each.

Sl. No.	Name of the candidates	Examination	Regd. No.	Period of Rustication
1	Oggu Lakshmi Narasimha Rao.	Matriculation	1702	Debarred for one and half years and permitted to sit for the University Examination to be held in March-April, 1959 or thereafter.
2	Vuppalapati Parasurama Raju.	Matriculation	1715	Debarred for one year and permitted to sit for the University Examinations to be held in September, 1958 or thereafter.
3	M. R. Venkataraman	Matriculation	1904	Debarred for one year and permitted to sit for the University Examinations to be hald in September, 1958 or thereafter.
4	C. Vittal Rao	Intermediate	6504	Debarred for one year and permitted to sit for the University Examinaitons to be held in September, 1958 or thereafter.
5	N. Krishna Rao	Intermediate	6541	Debarred for one year and permitted to sit for the University Examinations to be held in September, 1958 or thereafter.

By order,
K. V. GOPALASWAMY,
Registrar.

NAGPUR UNIVERSITY

ORDER

Balkrishna Devidas Deo, a student of Sitabai Arts College, Akola, is disqualified for admission to any examination of the University to be held before the year 1960 for attempting to use disingenuous means verging on fraud for admission to the B.A. course and subsequently to the University B.A. (Pass) Examination of March-April, 1957.

By order of the Executive Council,
Illegible,
Registrar,
NAGPUR UNIVERSITY.

NAGPUR,
The 8th November, 1957.

PANJAB UNIVERSITY (CHANDIGARH)

Notification

It is notified that the following persons have been disqualified, as noted below :—

(1) Mohamed Maulana S/o. Mohamed Ali, who produced a bogus certificate of having passed the Munshi Examination from the Panjab University, Lahore, in 1946, has been declared as not a fit and proper person to be admitted to any future examination of this University.

(2) Kulwant Singh S/o. Shri Bhagwan Singh, who obtained a duplicate copy of the Matriculation Certificate, on the basis of a false statement of having passed the said examination from the Panjab University, Lahore, in 1946, has been disqualified from appearing in any future examination of this University.

(3) (*i*) Sukh Dev Raj son of Shri Phagu Ram (Roll No. 47518, Matriculation Examination, 1957), who helped another candidate in the examination hall, has been disqualified for 1957 examination and his result has been quashed.

(*ii*) Narotam Singh son of Shri Kartar Singh (Roll No. 47882, Matriculation Examination, 1957) who received help from Sukh Dev Raj, has been disqualified for 1957.

(4) Satwant Kaur daughter of S. Kashmira Singh, village and Post Office, Dakoha, Jullundur Cantt., Roll No. 17586, Matriculation Examination, 1957, has been disqualified for the year 1957, for having used unfair means in the examination hall at Baba Bakala Centre. Her result has been quashed.

CHANDIGARH (CAPITAL). J. R. AGNIHOTRI,
November 8, 1957. *Registrar.*

UNIVERSITY OF KERALA

PROCEEDINGS OF THE SYNDICATE

No. D. Dis. 160/56.

Subject—Malpractice at the University Examinations held in March and September 1956.

Read—(1) Reports of the Chief Superintendents.
(2) Explanations of the candidates.
(3) Reports of the Examiners in the subjects concerned.
(4) Recommendation of the Standing Committee of the Syndicate on Residence, Welfare and Discipline of students.

ORDER

The Syndicate having found the undermentioned candidates at the University Examinations held in March and September, 1956 guilty of misconduct or resorting to unfair means at the examinations, resolved that the examinations taken by the candidates be cancelled and that they be debarred from appearing for any examinations of this University earlier than the date noted against the name of each.

By order,
P. S. ABRAHAM,
UNIVERSITY BUILDINGS, TRIVANDRUM, *Registrar.*
The 30th September, 1957.

Malpractice at the University Examinations held in March and September, 1956

September, 1956

Sl. No.	Name of candidates	Regd. No.	Examination taken by the candidate.	Date of birth.	Name of father or guardian.	Address	Period of punishment
1	Kuttykrishna Pillai, N.	13	B.L.	2-11-1099	Narayana Pillai, P. K.	N. Kuttykrishna Pillai, Panackal, Kizhackathil House, Cheppand P. O.	Not to appear for any examination of this University earlier than September, 1958.
2	Mariadas, P. J.	35	B.L.	29-12-1101	Kuruvilla Jacob Tharakan.	P. J. Mariadas, Ottathycal, Chingavanam.	Do.
3	Kumaradasan Thampi, S.	1043	Intermediate	16-6-1112	Sadasivan Pillai, K.	S. Kumaradasan Thampi, Puthenkattidam, Punnakkal Lane, Fort, Trivandrum—1.	Do.
4	Krishnan, G.	1291	Intermediate	10-12-1112	Govindan	G. Krishnan, Narangarthala House, Mekkepattam, Trivandrum—4.	Do.
5	Joseph Mathew	2687	Intermediate	8-3-1113	Thomas, E. M.	Joseph Mathew, Edanattu, Vizhapally, P. O. Changanacherry.	Do.
6	Vethakan, S.	5539	Intermediate	25-9-1932	Yesudial, S.	S. Vethakan, Andarkulam, Ramapuram P. O., Via. Nagercoil.	Do.
7	Ramaiyya Nadar, P.	5980	Intermediate	13-5-1111	Ponnu Ramaswamy Nadar, R.	P. Ramaiyya Nadar, Poomattiyan Villai, Eathamozhy P. O., Via. Nagercoil.	Do.
8	Sumathy Kutty, P.	7556	Intermediate	3-12-1111	Chellappan Pillai, N.	P. Sumathy Kutty, Muthiraparampil Veedu, Kannimelcherry, West Quilon.	Do.

Sl. No.	Name of candidates	Regd. No.	Examination taken by the candidate	Date of birth.	Name of father or guardian.	Address	Period of punishment
9	Thankamma, S.	1920	Intermediate	9-4-1108	Chandrasekhara Pillai, M.	S. Thankamma, Srinilayam Vazhuthoor, Neyyattinkara.	Not to appear for any examination of this University earlier than September, 1957.
10	Joseph Mathew	3298	Intermediate	14-11-1106	Mathew M. Thevalakkara.	Joseph Mathew, Thevalakkara House, Parel, Changanacherry.	Do.
11	Neelakantan Potti, N. V.	329	Intermediate	3-6-1111	Vasudevan Potty, N. V.	N. V. Neelakantan Potti, Kolathu Illam, Kaviyoor	Do.
				March, 1956			
1	Raghuvaran, M.	11478	Intermediate	17-7-1106	Narayanan	Raghuvaran, M., Kuzhinjathu Veedu, Kadakkal, P. O.	Not to appear for any examination of this Universtty earlier than March 1958.
2	Vasudev, P. G.	21	B.A. (Post Hindi Vidvan) Degree Examination.	6-9-1086	Parameswaran Pillai.	Vasudev P. G., Hindi Lecturer, N. S. S. Hindu College, Changanacherry	Permanently debarred from appearing for any examination of this University.

REGISTRAR
THE UNIVERSITY OF KERALA,
TRIVANDRUM.

The 25th October, 1957.

UNIVERSITY OF JAMMU AND KASHMIR, SRINAGAR

Notification No. F-27(3)-57/E.G. of 1957, dated the 5th September, 1957

The following candidates who were found guilty of using unfair means at the various examinations of this University held at the annual session, 1957, have been disqualified from passing any examination of the University for the period shown against each :—

Roll No.	Regd. No.	Name and parentage of the candidate	Residence or Institution from which appeared.	Period for which disqualified
		Matriculation Examination		
184	..	Beli Ram S/o. Bagar Ram	Govt. High School, Kishtwar, Jammu	Two years (1957 and 1958)
196	..	Ghulam Mohd. Mochi S/o. Rehman Mochi	Do.	Two years (1957 and 1958)
1188	..	Onkar Nath Bali S/o. Narain Singh	Govt. High School, Poonch, Jammu	Two years (1957 and 1958)
2612	..	Ghulam Qadir Bhat S/o. Ghulam Mohmad Bhat.	Govt. High School, Kilam, Kashmir	One year (1957)
4373	..	Shivji Bhat S/o. Nanak Chand	Harisingh Govt. High School, Rainawari, Srinagar.	Two years (1957 and 1958)
4826	..	Bashir-ud-Din S/o. Pir Saif-ud-Din	Govt. High School, Zadibal, Srinagar	Two years (1957 and 1958)
		Intermediate Examination		
131	3186-S-56	Tulsi Nath Raina S/o. Pt. Gopi Nath Raina	S. P. College, Srinagar	One year (1957)
829	2420-Gj-56	Ved Paul Tuli S/o. L. Gouri Shankar Tuli	Govt. G. M. Science, College, Jammu	Three years (1957, 1958 and 1959).
881	1155-G-56	Waryam Singh Bhardwaj S/o. Ram Singh	Do.	Three years (1957, 1958 and 1959).
1107	2528-S-55	Abdul Majid S/o. Abdul Ahad Jan	Khalifapora, Khanayar, Srinagar	One year (1957)
1264	164-SP-54	Gh. Muhi-yud-Din S/o. Aziz Khuru	Govt. College, Sopore, Kashmir	Two years (1957 and 1958
1756	282-Ang-54	Soom Nath Goja S/o. Pt. Tika Lal Goja	Govt. College, Anatnag, Kashmir	Three years (1957, 1958 and 1959).
		Degree (B.A. and B.Sc.) Examination		
195	1206-Gj-53	Baljit Singh S/o. Dr. Surjit Singh	Tibb. Govt. G. M. Science, College Jammu	Three years (1957, 1958 and 1959).
790	1046-S-51	Rishi Mohd. Yasin Faroqi S/o. M. Abdul Ghani Rishi.	Anantnag—Kashmir	Three years (1957, 1958 and 1959).

B. SINGH,
Deputy Registrar.

PATNA UNIVERSITY

The undermentioned candidates are debarred from appearing at any University Examination for the period noted against their names as they were found guilty of using unfair means at the Annual and Supplementary Intermediate and Bachelor Examinations in Commerce, Arts and Law Part I Examination (September) of 1957.

Sl. No.	Centre	Roll No. and examination.	Registration No. and College	Candidate's name	Period of punishment
1	Tri-Chandra College, Kathmandu, Nepal.	Roll Nep. No 18 I.Com.	632-56 Tri-Chandra College, Kathmandu, Nepal.	Tirtha Kumar Duwal.	Debarred from appearing at any University Examination prior to the Supplementary Examination of 1959.
2	Tri-Chandra College, Kathmandu, Nepal.	Roll Nep. No. 32, I.A.	142-52 Durbar Intermediate College, Kathmandu, Nepal.	Ishwari Lall Shresth	Debarred from appearing at any University Examination prior to the Supplementary Examination of 1959.
3	Magadh Mahila College, Patna.	Roll Pat, No. 263, I.A.	2097-56 Magadh Mahila College, Patna.	Kumari Manorama Mathur.	Debarred from appearing at any University Examination prior to the Supplementary Examination of 1958.
4	Patna Law College, Patna	Roll Pat. No. 188, Law, Part I.	1234-54 Law College, Patna.	S. M. Vasique	Debarred from appearing at any University Examination prior to the August Law Examination of 1960.
5	B. N. College, Patna	Roll Pat. No. 509, I.A.	2288-55 B. N. College, Patna.	Baij Nath Tiwari	Debarred from appearing at any University Examination prior to the Supplementary Examination of 1958.

PATNA UNIVERSITY,
Patna, the 25th November, 1957.

S. Y. HUSSAIN,
Deputy Registrar.